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AEROSOL-GENERATING DEVICE AND MICROWAVE HEATING ASSEMBLY THEREOF

Abstract

A microwave heating assembly for an aerosol-generating device includes: an outer conductor unit in a cylindrical shape and including an open end, a closed end opposite the open end, and a cavity located between the open end and the closed end; an inner conductor unit arranged in the cavity, one end of the inner conductor being connected to an end wall of the closed end, and an other end of the inner conductor unit extending toward the open end; and a microwave feed unit including: an outer conductor mounted on the outer conductor unit and in ohmic contact with the outer conductor unit, and an inner conductor arranged in the outer conductor and including a feed end extending into the cavity so as to feed microwaves. An insertion hole is provided on an inner side of the outer conductor unit or on the inner conductor unit.

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Background/Summary

CROSS-REFERENCE TO PRIOR APPLICATION [0001] This application is a continuation of International Patent Application No. PCT/CN2022/129368, filed on Nov. 2, 2022. The entire disclosure is hereby incorporated by reference herein.

FIELD
[0002] The present invention relates to the field of electronic atomization, and in particular, to an aerosol-generating device and a microwave heating assembly thereof.
BACKGROUND
[0003] In the related art, a microwave-heating aerosol-generating device includes a microwave heating assembly, and the microwave heating assembly includes an outer conductor unit, an inner conductor unit, and a microwave feed unit. The microwave feed unit functions to conduct microwaves. A feed end of the inner conductor of the microwave feed unit extends into the outer conductor unit and is in ohmic contact with the side wall of the inner conductor unit, to satisfy a microwave feed requirement.
[0004] However, during heating of the microwave heating assembly, as the temperature increases, thermal expansion and contraction occur in the outer conductor unit, the inner conductor unit, and the inner conductor, which is likely to lead to the formation of a gap between the inner conductor and the inner conductor unit and/or the outer conductor unit. As a result, microwaves cannot be effectively fed into the inner conductor unit. In addition, during mechanical processing, there is a tolerance range (usually with a size deviation ranging from 0.01 mm to 0.05 mm) for the inner conductor, the inner conductor unit, and the outer conductor unit, which is likely to lead to the formation of a gap between the inner conductor and the inner conductor unit and/or the outer conductor unit. Consequently, there is a risk of poor contact, which is also likely to lead to failure of microwave feed.
SUMMARY
[0005] In an embodiment, the present invention provides a microwave heating assembly for an aerosol-generating device, the microwave heating assembly comprising: an outer conductor unit in a cylindrical shape and comprising an open end, a closed end opposite the open end, and a cavity located between the open end and the closed end; an inner conductor unit arranged in the cavity, one end of the inner conductor being connected to an end wall of the closed end, and an other end of the inner conductor unit extending toward the open end; and a microwave feed unit, comprising: an outer conductor mounted on the outer conductor unit and in ohmic contact with the outer conductor unit, and an inner conductor arranged in the outer conductor and comprising a feed end extending into the cavity so as to feed microwaves, wherein an insertion hole is provided on an inner side of the outer conductor unit or on the inner conductor unit, the feed end extending into the insertion hole.

Description

BRIEF DESCRIPTION OF THE DRAWINGS
[0006] Subject matter of the present disclosure will be described in even greater detail below based on the exemplary figures. All features described and/or illustrated herein can be used alone or combined in different combinations. The features and advantages of various embodiments will

become apparent by reading the following detailed description with reference to the attached drawings, which illustrate the following:

[0007] FIG. **1** is a schematic diagram of an external structure of a microwave heating assembly according to Embodiment 1 of the present invention;

[0008] FIG. **2** is a longitudinal structural cross-sectional view of the microwave heating assembly shown in FIG. **1**;

[0009] FIG. **3** is a structural enlarged view in which a gap exists between the outer wall surface of an inner conductor and the inner wall surface of an insertion hole according to Embodiment 1 of the present invention;

[0010] FIG. **4** is a structural enlarged view in which a gap exists between the outer peripheral wall surface of the inner conductor and the inner peripheral wall surface of the insertion hole according to Embodiment 1 of the present invention;

[0011] FIG. **5** is a longitudinal structural cross-sectional view of a microwave heating assembly according to Embodiment 2 of the present invention;

[0012] FIG. **6** is a structural enlarged view in which an inner conductor is in complete contact with the inner wall surface of an insertion hole according to Embodiment 2 of the present invention;

[0013] FIG. **7** is a structural enlarged view in which a gap exists between a feed end of the inner conductor and the bottom of the insertion hole according to Embodiment 2 of the present invention;

[0014] FIG. **8** is a longitudinal structural cross-sectional view of a microwave heating assembly according to Embodiment 3 of the present invention;

[0015] FIG. **9** is a structural enlarged view in which a gap exists between the outer wall surface of a third inner conductor and the inner wall surface of a third insertion hole according to Embodiment 3 of the present invention;

[0016] FIG. **10** is a longitudinal structural cross-sectional view of a microwave heating assembly according to Embodiment 4 of the present invention;

[0017] FIG. **11** is a structural enlarged view in which an inner conductor is inserted into an insertion hole located on a conductor end wall of an outer conductor unit according to Embodiment 4 of the present invention;

[0018] FIG. **12** is a longitudinal structural cross-sectional view of a microwave heating assembly according to Embodiment 5 of the present invention;

[0019] FIG. **13** is a structural enlarged view in which an inner conductor is inserted into an insertion hole provided on a boss of an outer conductor unit according to Embodiment 5 of the present invention;

[0020] FIG. **14** is a longitudinal structural cross-sectional view of a microwave heating assembly according to Embodiment 6 of the present invention;

[0021] FIG. **15** is a structural enlarged view in which an inner conductor is inserted into an insertion hole located on a conductor side wall of an outer conductor unit according to Embodiment 6 of the present invention;

[0022] FIG. **16** is a scattering parameter diagram obtained by testing in Experiment 1 based on the microwave heating assembly according to Embodiment 1 of the present invention;

[0023] FIG. **17** is a scattering parameter diagram obtained by testing in Experiment 2 based on the microwave heating assembly according to Embodiment 1 of the present invention;

[0024] FIG. **18** is a scattering parameter diagram obtained by testing in Experiment 3 based on the microwave heating assembly according to Embodiment 1 of the present invention;

[0025] FIG. **19** is a scattering parameter diagram obtained by testing in Experiment 4 based on the microwave heating assembly according to Embodiment 1 of the present invention;

[0026] FIG. **20** is a scattering parameter diagram obtained by testing in Experiment 5 based on the microwave heating assembly according to Embodiment 1 of the present invention;

[0027] FIG. 21 is a scattering parameter diagram obtained by testing in Experiment 6 based on the microwave heating assembly according to Embodiment 1 of the present invention;

[0028] FIG. **22** is a scattering parameter diagram obtained by testing in Experiment 7 based on the microwave heating assembly according to Embodiment 1 of the present invention;
[0029] FIG. **23** is a scattering parameter diagram obtained by testing in Experiment 8 based on the microwave heating assembly according to Embodiment 1 of the present invention;
[0030] FIG. **24** is a scattering parameter diagram obtained by testing in Experiment 9 based on the microwave heating assembly according to Embodiment 1 of the present invention;
[0031] FIG. **25** is a scattering parameter diagram obtained by testing in Experiment 10 based on the microwave heating assembly according to Embodiment 1 of the present invention;
[0032] FIG. **26** is a scattering parameter diagram obtained by testing in Experiment 11 based on the microwave heating assembly according to Embodiment 1 of the present invention;
[0033] FIG. **27** is a scattering parameter diagram obtained by testing in Experiment 12 based on the microwave heating assembly according to Embodiment 1 of the present invention;
[0034] FIG. **28** is a scattering parameter diagram obtained by testing in Experiment 13 based on a second microwave heating assembly according to Embodiment 2 of the present invention; and
[0035] FIG. **29** is a scattering parameter diagram obtained by testing in Experiment 14 based on the second microwave heating assembly according to Embodiment 2 of the present invention.

DETAILED DESCRIPTION

[0036] In an embodiment, the present invention provides an improved aerosol-generating device and a microwave heating assembly thereof.
[0037] In an embodiment, the present invention constructs a microwave heating assembly, used in an aerosol-generating device, including: [0038] an outer conductor unit, configured in a cylindrical shape and including an open end, a closed end opposite to the open end, and a cavity located between the open end and the closed end; [0039] an inner conductor unit, arranged in the cavity, where one end of the inner conductor unit is connected to the end wall of the closed end, and the other end of the inner conductor unit extends toward the open end; and [0040] a microwave feed unit, including: [0041] an outer conductor, mounted on the outer conductor unit and in ohmic contact with the outer conductor unit; [0042] and [0043] an inner conductor, arranged in the outer conductor, and including a feed end extending into the cavity to feed microwaves, where [0044] an insertion hole is provided on the inner side of the outer conductor unit or on the inner conductor unit, and the feed end extends into the insertion hole.
[0045] In some embodiments, the feed end is in ohmic contact with the inner wall surface of the insertion hole.
[0046] In some embodiments, a first gap exists between the end surface of the feed end and the bottom of the insertion hole, and the first gap is less than or equal to 0.1 mm; and [0047] a second gap exists between the outer peripheral wall surface of the feed end and the inner peripheral wall surface of the insertion hole, and the second gap is less than or equal to 0.1 mm.
[0048] In some embodiments, the insertion hole is a blind hole.
[0049] In some embodiments, the depth of the insertion hole ranges from 0.9 mm to 2.6 mm.
[0050] In some embodiments, the insertion hole is cylindrical, and the diameter of the insertion hole ranges from 0.65 mm to 0.9 mm.
[0051] In some embodiments, a feed hole that communicates with the cavity and the outside is provided on the side wall of the outer conductor unit, and the outer conductor is embedded in the feed hole.
[0052] In some embodiments, the inner conductor unit is coaxial with the outer conductor unit.
[0053] In some embodiments, the inner conductor unit includes a conductor column, and the conductor column includes a fixed end and a free end; the fixed end is connected to the closed end and is in ohmic contact with the end wall of the closed end; and the free end extends toward the open end.
[0054] In some embodiments, the insertion hole is provided on the outer peripheral wall of the conductor column and is opposite to the feed hole, and the insertion hole extends in the radial

direction of the conductor column.
[0055] In some embodiments, the inner conductor unit further includes a boss fitted to the side wall of the conductor column, where the boss protrudes from the conductor column toward the feed hole; and the insertion hole is formed in the boss and extends away from the feed hole and along the end surface of the boss facing the feed hole.
[0056] In some embodiments, the bottom of the insertion hole extends into the conductor column.
[0057] In some embodiments, the inner conductor is in the shape of a straight line and extends into the insertion hole in the direction perpendicular to the axis of the conductor column.
[0058] In some embodiments, the insertion hole is formed on the end wall of the closed end.
[0059] In some embodiments, a boss protruding toward the open end is provided on the end wall of the closed end, and the insertion hole is provided on the boss.
[0060] In some embodiments, the inner conductor is L-shaped and includes a first segment and a second segment connected to the first segment, where [0061] the end of the first segment away from the second segment is configured to receive microwaves, and the end of the second segment away from the first segment is the feed end.
[0062] In some embodiments, the insertion hole is provided on the inner peripheral side wall of the outer conductor unit.
[0063] In some embodiments, a boss protruding outward is further arranged on the outer surface of the outer conductor unit; and the insertion hole runs through the wall surface of the outer conductor unit and extends toward the boss, an opening of the insertion hole is formed on the inner wall surface of the outer conductor unit, and the bottom of the insertion hole extends into the boss.
[0064] In some embodiments, the inner conductor is U-shaped and includes a first segment, a second segment, and a third segment; the third segment is parallel to the first segment, and two ends of the second segment are respectively connected to the first segment and the third segment; and the end of the first segment away from the second segment is configured to receive microwaves, and the end of the third segment away from the second segment is the feed end.
[0065] In some embodiments, the inner conductor unit further includes a conductor disk, the conductor disk is axially fitted to the free end, the diameter of the conductor disk is greater than the diameter of the conductor column, and a spacing is set between the conductor disk and the inner wall surface of the outer conductor unit.
[0066] In some embodiments, the inner conductor unit further includes a probe apparatus having an elongated shape, and an end of the probe apparatus is inserted into the conductor disk and is in ohmic contact with the conductor disk.
[0067] In some embodiments, the microwave heating assembly further includes an accommodating base mounted on the open end, the accommodating base includes an accommodating portion configured to accommodate an aerosol-generation substrate, and the accommodating portion is located in the cavity.
[0068] In the present invention, an aerosol-generating device is further constructed, including a microwave-generating device, and further including the microwave heating assembly. The microwave feed unit is connected to the microwave-generating device.
Beneficial Effects
[0069] Implementation of the present invention has the following beneficial effect: In the present invention, an insertion hole is provided on an inner conductor unit or the inner side of an outer conductor unit for inserting a feed end of an inner conductor of a microwave feed unit, thereby improving reliability of microwave feeding.
[0070] List of Reference Numerals: microwave heating assembly **100**; microwave feed unit **2**; outer conductor unit **11**; inner conductor unit **12**; accommodating base **13**; closed end **111**; open end **112**; heating area **113**; conductor side wall **114**; conductor end wall **115**; feed hole **116**; conductor column **121**; conductor disk **122**; probe apparatus **123**; insertion hole **14**; accommodating portion **131**; fixing portion **132**; positioning rib **133**; accommodating cavity **1311**;

through hole **1321**; outer conductor **21**; inner conductor **22**; dielectric layer **23**; connecting end **221**; feed end **222**; first gap **241**; second gap **242**; [0071] second microwave heating assembly **100***a*; second microwave feed unit **2***a*; second inner conductor unit **12***a*; second conductor column **121***a*; second conductor disk **122***a*; second probe apparatus **123***a*; second insertion hole **14***a*; second boss **15***a*; second outer conductor **21***a*; second inner conductor **22***a*; second dielectric layer **23***a;* [0072] third microwave heating assembly **100***b*; third microwave feed unit **2***b*; third inner conductor unit **12***b*; third conductor column **121***b*; third conductor disk **122***b*; third probe apparatus **123***b*; third insertion hole **14***b*; third boss **15***b*; third outer conductor **21***b*; third inner conductor **22***b*; third dielectric layer **23***b;* [0073] fourth microwave heating assembly **100***c*; fourth microwave feed unit **2***c*; fourth outer conductor unit **11***c*; fourth inner conductor unit **12***c*; fourth accommodating base **13***c*; fourth closed end **111***c*; fourth open end **112***c*; fourth conductor side wall **114***c*; fourth conductor end wall **115***c*; fourth feed hole **116***c*; fourth insertion hole **14***c*; fourth conductor column **121***c*; fourth conductor disk **122***c*; fourth probe apparatus **123***c*; fourth outer conductor **21***c*; fourth inner conductor **22***c*; fourth dielectric layer **23***c*; first segment **223***c*; second segment **224***c;*
[0074] fifth microwave heating assembly **100***d*; fifth microwave feed unit **2***d*; fifth outer conductor unit **11***d*; fifth closed end **111***d*; fifth open end **112***d*; fifth conductor side wall **114***d*; fifth conductor end wall **115***d*; fifth feed hole **116***d*; fifth insertion hole **14***d*; fifth boss **15***d*; fifth outer conductor **21***d*; fifth inner conductor **22***d*; fifth dielectric layer **23***d*; first segment **223***d*; second segment **224***d;*
[0075] sixth microwave heating assembly **100***e*; sixth outer conductor unit **11***e*; sixth microwave feed unit **2***e*; sixth closed end **111***e*; sixth open end **112***e*; six conductor side wall **114***e*; sixth conductor end wall **115***e*; sixth feed hole **116***e*; sixth insertion hole **14***c*; sixth boss **15***e*; sixth outer conductor **21***e*; sixth inner conductor **22***e*; sixth dielectric layer **23***e*; first segment **223***e*; second segment **224***e*; and second segment **225***e*.
[0076] To provide a clearer understanding of the technical features, objectives, and effects of the present invention, specific implementations of the present invention are described in detail with reference to the accompanying drawings. In the following descriptions of this application, it should be understood that orientation or position relationships indicated by the terms such as “front”, “rear”, “on”, “below”, “left”, “right”, “longitudinal”, “latitudinal”, “vertical”, “horizontal”, “top”, “bottom”, “inside”, “outside”, “head”, and “tail” are based on orientation or position relationships shown in the accompanying drawings, are used only for case of describing the technical solution, rather than indicating that the apparatus or clement must have a particular orientation or be constructed and operated in a particular orientation. Therefore, such terms should not be construed as a limitation to the present invention.
[0077] It should be further noted that unless otherwise explicitly specified and defined, terms such as “mounted”, “connected”, “connection”, “fixed”, and “arranged” should be understood in a broad sense. For example, a connection may be a fixed connection, a detachable connection, or an integral connection; the connection may be a mechanical connection or an electrical connection; or the connection may be a direct connection, an indirect connection through an intermediate medium, internal communication between two elements, or an interaction relationship between two elements. When an element is being “above” or “below” another element, the element can be “directly” or “indirectly” located above the another element, or one or more intermediate elements may exist. The terms such as “first”, “second”, and “third” are merely intended for case of describing of the technical solution, and shall not be understood as indicating or implying relative significance or implicitly indicating the number of indicated technical features. Therefore, a feature defined by the terms such as “first”, “second”, and “third” may explicitly or implicitly include one or more of the features. A person of ordinary skill in the art may understand the specific meanings of the foregoing terms in the present invention according to specific situations.
[0078] In the following descriptions, for the purpose of description rather than limitation, specific details such as specific system structures, and technologies are proposed to thoroughly understand the embodiments of the present invention. However, it should be clear to a person skilled in the art

that the present invention may also be implemented in other embodiments without these specific details. In other cases, detailed descriptions of well-known systems, apparatuses, circuits, and methods are omitted, so that the present invention is described without being obscured by unnecessary details.

[0079] According to the present invention, an aerosol-generating device is constructed. The aerosol-generating device can heat an aerosol-forming article by using microwaves for atomization to generate an aerosol, for a user to inhale. In some embodiments, the aerosol-forming article is a solid aerosol-forming article such as a processed plant leaf product. It may be understood that, in some other embodiments, the aerosol-forming article may be a liquid aerosol-forming article.

[0080] The aerosol-generating device may include a microwave-generating device and a microwave heating assembly **100**. The microwave-generating device can generate microwaves. The microwave heating assembly **100** is connected to the microwave-generating device to receive the microwaves, and forms a microwave field in a cavity of the microwave heating assembly **100**. The microwave field can act on the aerosol-forming article to implement microwave heating on the aerosol-forming article.

[0081] Referring to FIG. **1**, the appearance of the microwave heating assembly **100** is approximately in the shape of a circular column. Certainly, the microwave heating assembly **100** is not limited to being in the shape of the circular column, and may alternatively be in other shapes such as a rectangular column or an elliptical column.

[0082] Referring to FIG. **2**, the microwave heating assembly **100** may include an outer conductor unit **11**, an inner conductor unit **12**, an accommodating base **13**, and a microwave feed unit **2**. The outer conductor unit **11** is configured in a cylindrical shape, include a closed end **111** and an open end **112** opposite to the closed end **111**, and can define a semi-closed cavity. The cavity is in the shape of a circular column. The inner conductor unit **12** is configured to adjust a resonance frequency and microwave distribution in the cavity. The inner conductor unit **12** is coaxially arranged in the cavity of the outer conductor unit **11**, one end of the inner conductor unit **12** is connected to the closed end **111** of the outer conductor unit **11** and is in ohmic contact with the end wall of the closed end **111**, to form a short-circuit end of the microwave heating assembly **100**; and the other end of the inner conductor unit **12** extends toward the open end **112** of the outer conductor unit **11** and is not in contact with the outer conductor unit **11**, to form an open-circuit end of the microwave heating assembly **100**. The accommodating base **13** is configured to load an aerosol-forming article, and is fixedly or detachably mounted at the open end **112** of the outer conductor unit **11**. When being inserted into the accommodating base **13**, the aerosol-forming article may be located at a position at which the microwave field is formed. The microwave feed unit **2** is configured to feed the microwaves generated by the microwave-generating device into the cavity (where a feeding manner may include an electric feeding manner or a magnetic feeding manner; and the electric feeding manner is preferred). The microwave feed unit **2** is detachably mounted on the outer peripheral wall of the outer conductor unit **11**.

[0083] Referring to FIG. **2**, in this embodiment, the outer conductor unit **11** may include a conductor side wall **114** and a conductor end wall **115** that are conductive. The conductor side wall **114** may be cylindrical and includes two ends that are oppositely arranged. The conductor end wall **115** is closed at a first end of the conductor side wall **114**, to form the closed end **111**. A second end of the conductor side wall **114** has an open structure, to form the open end **112** for the accommodating base **13** to be mounted therein. In addition, a feed hole **116** radially running through is provided at a position close to the conductor end wall **115** of the conductor side wall **114**. The feed hole **116** can be used for inserting the microwave feed unit **2** into the outer conductor unit **11**. The hole size of the feed hole **116** matches the outer diameter of the outer conductor **21** of the microwave feed unit **2**.

[0084] In this embodiment, the inner conductor unit **12** may include a conductor column **121**, a conductor disk **122** located above the conductor column **121**, and a probe apparatus **123** embedded in the conductor disk **122**.

[0085] The conductor column **121** may be in the shape of a circular column, the end (namely, the bottom end) of the conductor column **121** away from the open end **112** of the outer conductor unit **11** is coaxially connected to the conductor end wall **115** of the outer conductor unit **11**, and the end (namely, the top end) of the conductor column **121** close to the open end **112** extends toward the open end **112** of the outer conductor unit **11**. The diameter of the conductor column **121** is less than the inner diameter of the outer conductor unit **11**. It may be understood that the conductor column **121** is not limited to the shape of the circular column, and may alternatively be in other shapes such as a rectangular column, an elliptical column, a stepped column, and an irregular column.

[0086] An insertion hole **14** is provided on the outer peripheral side of the conductor column **121** opposite to the feed hole **116** of the outer conductor unit **11**. The insertion hole **14** is configured for inserting the inner conductor **22** of the microwave feed unit **2**, to reduce a risk of poor contact between the inner conductor **22** and the conductor column **121**. In this embodiment, the insertion hole **14** is a blind hole, which is a straight columnar channel, and extends toward the inside of the conductor column **121** along the outer peripheral side surface of the conductor column **121** opposite to the feed hole **116** of the outer conductor unit **11**.

[0087] Optionally, the depth of the insertion hole ranges from 0.9 mm to 2.6 mm. Optionally, the diameter of the insertion hole ranges from 0.65 mm to 0.9 mm.

[0088] The conductor disk **122** is configured to conduct microwaves, and may further increase inductance and capacitance of the conductor disk, and reduce a resonance frequency, so that the size of the cavity can be further reduced. The conductor disk **122** may be in the shape of a disk, the diameter of the conductor disk is greater than the diameter of the conductor column **121**, and is coaxially arranged on the top end (namely, a free end) of the conductor column **121**. The conductor disk **122** may be integrally fitted to the conductor column **121**, or may be in ohmic contact with the conductor column **121**. It may be understood that, the conductor disk **122** is not a necessary part of the microwave heating assembly **100**, and is applied to this embodiment as a preferred solution. When no conductor disk **122** is provided, microwave heating may also be implemented by depending on the conductor column **121** and the probe apparatus **123**.

[0089] The probe apparatus **123** is configured to adjust microwave field distribution and a microwave feed frequency, and used as an independent structure (in other words, the probe apparatus **123** is detachably connected to the conductor disk **122** and the conductor column **121**), may be extracted from the top end of the conductor disk **122**/inserted into the conductor disk **122**, and form ohmic contact with the conductor disk **122**. In this embodiment, the probe apparatus **123** may include an elongated probe; the lower end of the probe is inserted from the top end of the conductor column **121**, and is coaxially embedded in the conductor disk **122**, to form good ohmic contact with the conductor disk **122**; and the upper end of the probe extends upward into the accommodating base **13**. It may be understood that when microwaves are fed into the microwave heating assembly **100**, a microwave field is formed around a partial structure of the probe apparatus **123** that extends into the accommodating base **13**. When the aerosol-forming article extends into the accommodating base **13** and is inserted into the upper end of the probe, microwave heating can be performed on the aerosol-forming article.

[0090] Optionally, a shape of the upper end portion of the probe may include one of a plane, a sphere, an ellipsoid, a cone, or a truncated cone. The truncated cone is preferred because the truncated cone can enhance a local field strength, thereby increasing an atomization speed of the aerosol-forming material.

[0091] As shown in FIG. **2**, the accommodating base **13** in this embodiment may include an accommodating portion **131** and a fixing portion **132** integrally connected to the accommodating portion **131**. The accommodating portion **131** is configured to accommodate the aerosol-forming article. The fixing portion **132** is configured to axially block the open end **112** of the outer conductor unit **11**, and allow the accommodating portion **131** to extend into the heat area **113**, so that the probe apparatus **123** passes through in the accommodating portion **131**.

[0092] In this embodiment, the accommodating portion **131** may be cylindrical, and the outer diameter of the accommodating portion **131** may be less than the inner diameter of the outer conductor unit **11**. The accommodating portion **131** includes an axial accommodating cavity **1311** configured to accommodate the aerosol-forming article. The fixing portion **132** may be annular and is coaxially connected to the accommodating portion **131**. The fixing portion **132** may be coaxially block the open end **112** of the outer conductor unit **11**, so that the accommodating portion **131** is coaxially arranged in the heat area **113**. The fixing portion **132** includes an axial through hole **1321** connecting the accommodating cavity **1311** to the external environment, and the aerosol-generating article can be inserted into the accommodating cavity **1311** through the through hole **1321**.

[0093] In this embodiment, the accommodating base **13** further includes several elongated positioning ribs **133**. These positioning ribs **133** are uniformly spaced circumferentially on the wall surfaces of the accommodating cavity **1311** and/or the through hole **1321**. Each positioning rib **133** extends in the direction parallel to the axis of the accommodating base **13**. The positioning ribs **133** may be configured to clamp the aerosol-forming article inserted into the accommodating cavity **1311** and/or the through hole **1321**. In addition, an air inlet channel longitudinal extending is formed between every two adjacent positioning ribs **133**, so that air in the environment is conveniently drawn to the bottom of the aerosol-forming article, and then enters the aerosol-forming article, to carry the aerosol of the aerosol-forming article that is generated through microwave heating.

[0094] As shown in FIG. **2** to FIG. **4**, the microwave feed unit **2** may be a coaxial connector in this embodiment, is inserted from the feed hole **116** located on the peripheral side of the outer conductor unit **11**, and is mounted on the outer conductor unit **11**. The microwave feed unit **2** includes an outer conductor **21**, an inner conductor **22** arranged in the outer conductor **21**, and a dielectric layer **23** between the inner conductor **22** and the outer conductor **21**.

[0095] In this embodiment, the outer conductor **21** has a straight cylindrical structure with an opening structure at two ends; and when the microwave feed unit **2** is mounted on the outer conductor unit **11**, the side wall of the outer conductor **21** is in ohmic contact with the inner wall surface of the feed hole **116** located on the outer conductor unit **11**.

[0096] The inner conductor **22** has a straight-line, needle-like structure and is in the shape of a straight circular column. Optionally, the diameter of the inner conductor **22** ranges from 0.55 mm to 0.8 mm. The inner conductor **22** includes two opposite ends, and one end is a connecting end **221** and located in the outer conductor **21**; and the other end is a feed end **222** and located outside the outer conductor **21**. The connecting end **221** is configured to be connected to the microwave-generating device, to receive the microwaves. A connection manner may be a coaxial connection manner or a microstrip line connection manner. The feed end **222** is relatively close to the inner conductor unit **12** when the microwave feed unit **2** is mounted on the outer conductor unit **11**, and is configured to be inserted into the insertion hole **14** of the conductor column **121** to implement electric coupling or magnetic coupling, to guide the microwaves to the inner conductor unit **12**. It may be understood that, in the present invention, by providing the insertion hole **14** on the conductor column **121** of the inner conductor unit **12** to cooperate with the inner conductor **22** of the microwave feed unit **2**, after the inner conductor **22** extends into the insertion hole **14**, a gap may exist between the outer wall surface of the inner conductor **22** and the inner wall surface of the insertion hole **14** due to processing precision, thermal expansion and contraction, or the like. As shown in FIG. **3**, the gap includes a first gap **241** formed between the feed end **222** of the inner conductor **22** and the bottom of the insertion hole **14** and a second gap **242** formed between the outer peripheral wall surface of the inner conductor **22** and the inner peripheral wall surface of the insertion hole **14**. As shown in FIG. **4**, the second gap **242** is formed between the inner conductor **22** and the insertion hole **14**.

[0097] However, provided that the gap is less than a specific range (less than or equal to 0.1 mm),

effective feeding of the microwaves can also be implemented even if the inner conductor **22** is not in direct contact with the conductor column **121**. It may also be understood that, provided that the first gap **241** and/or the second gap **242** are separately less than or equal to 0.1 mm, good microwave feed can be implemented. In this case, the feeding manner is capacitive feeding. The feeding manner requires a simple structure, and can ensure effective feeding of microwaves.
[0098] FIG. **5** and FIG. **6** show a second microwave heating assembly **100***a* according to Embodiment 2 of the present invention. A difference between this embodiment and Embodiment 1 lies in: The inner conductor unit **12** and the microwave feed unit **2** are respectively replaced with a second inner conductor unit **12***a* and a second microwave feed unit **2***a*.
[0099] As shown in FIG. **5**, in this embodiment, the second inner conductor unit **12***a* includes a second conductor column **121***a*, a second conductor disk **122***a* located above the second conductor column **121***a*, a second boss **15***a* arranged on the outer peripheral side surface of the second conductor column **121***a*, and a second probe apparatus **123***a* embedded in the second conductor disk **122***a*.
[0100] The second conductor column **121***a* is in the shape of a circular column, the end (namely, the bottom end) of the conductor column **121***a* away from the open end **112** of the outer conductor unit **11** is coaxially connected to the conductor end wall **115** of the outer conductor unit **11**, and the end (namely, the top end) of the conductor column **121***a* close to the open end **112** extends toward the open end **112** of the outer conductor unit **11**. The diameter of the second conductor column **121***a* is less than the inner diameter of the outer conductor unit **11**.
[0101] The second boss **15***a* protrudes toward the feed hole **116** along the outer peripheral side surface of the second conductor column **121***a* opposite to the feed hole **116** of the outer conductor unit **11**, where the protrusion direction is perpendicular to the axial direction of the outer conductor unit **11**; and a spacing exists between the second boss **15***a* and the feed hole **116**. In this embodiment, the second boss **15***a* and the second conductor column **121***a* may be integrally fitted, or may be in ohmic contact. Optionally, the shape of the second boss **15***a* includes a cylinder or a cuboid.
[0102] A second insertion hole **14***a* for inserting the microwave feed unit **2** is provided on the end surface of the second boss **15***a* corresponding to the second feed hole **116***a*. The second insertion hole **14***a* is a blind hole, which is a straight cylindrical channel, and extends toward the inside of the second boss **15***a* along the end surface of the second boss **15***a* opposite to the feed hole **116**. The bottom of the second insertion hole **14***a* is located in the second boss **15***a*.
[0103] For the second conductor disk **122***a* and the second probe apparatus **123***a*, refer to the conductor disk **122** and the probe apparatus **123** in Embodiment 1. The second conductor disk **122***a* and the second probe apparatus **123***a* respectively have the same shape, connection position, connection relationship, and function as the conductor disk **122** and the probe apparatus **123** in Embodiment 1, and details are not described herein again.
[0104] As shown in FIG. **5** to FIG. **7**, the second microwave feed unit **2***a* may be a coaxial connector in this embodiment, is inserted from the feed hole **116** located on the peripheral side of the outer conductor unit **11**, and is mounted on the outer conductor unit **11**. The second microwave feed unit **2***a* includes a second outer conductor **21***a*, a second inner conductor **22***a* arranged in the second outer conductor **21***a*, and a second dielectric layer **23***a* between the second inner conductor **22***a* and the second outer conductor **21***a*.
[0105] In this embodiment, the second outer conductor **21***a* has a straight cylindrical structure with an opening structure at two ends; and when the second microwave feed unit **2***a* is mounted on the outer conductor unit **11**, the side wall of the second outer conductor **21***a* is in ohmic contact with the inner wall surface of the feed hole **116** located on the outer conductor unit **11**.
[0106] The second inner conductor **22***a* is a straight-line, needle-like structure, one end of the second inner conductor **22***a* is the connecting end **221** and located in the second outer conductor **21***a*; and the other end is the feed end **222** and located outside the second outer conductor **21***a*. The

connecting end **221** is configured to be connected to the microwave-generating device. The feed end **222** is relatively close to the second inner conductor unit **12***a* when the second microwave feed unit **2***a* is mounted on the outer conductor unit **11**, and is configured to be inserted into the second insertion hole **14***a* of the second boss **15***a*, to implement electric coupling or magnetic coupling, to guide the microwaves to the second microwave feed unit **2***a*.

[0107] Referring to FIG. **6**, the second inner conductor **22***a* is completely inserted into the second insertion hole **14***a*, and forms good ohmic contact with the second boss **15***a*, to successfully feed the microwaves. Referring to FIG. **7**, the second inner conductor **22***a* is not completely inserted into the second insertion hole **14***a*, the first gap **241** exists between the feed end of the second inner conductor **22***a* and the bottom of the second insertion hole **14***a*, but can also well feed the microwaves.

[0108] FIG. **8** and FIG. **9** show a third microwave heating assembly **100***b* according to Embodiment 3 of the present invention. A difference between this embodiment and Embodiment 1 lies in: The inner conductor unit **12** and the microwave feed unit **2** are respectively replaced with a third inner conductor unit **12***b* and a third microwave feed unit **2***b*.

[0109] As shown in FIG. **8**, in this embodiment, the third inner conductor unit **12***b* includes a third conductor column **121***b*, a third conductor disk **122***b* located above the third conductor column **121***b*, a third boss **15***b* arranged on the outer peripheral side surface of the third conductor column **121***b*, and a third probe apparatus **123***b* embedded in the third conductor disk **122***b*.

[0110] The third conductor column **121***b* is in the shape of a circular column, the end (namely, the bottom end) of the conductor column **121***b* away from the open end **112** of the outer conductor unit **11** is coaxially connected to the conductor end wall **115** of the outer conductor unit **11**, and the end (namely, the top end) of the conductor column **121***b* close to the open end **112** extends toward the open end **112** of the outer conductor unit **11**. The diameter of the third conductor column **121***b* is less than the inner diameter of the outer conductor unit **11**.

[0111] The third boss **15***b* is formed protruding toward the feed hole **116** along the outer peripheral side surface of the third conductor column **121***b* opposite to the feed hole **116** of the outer conductor unit **11**, but is spaced apart from the feed hole **116**. The third boss **15***b* and the third conductor column **121***b* may be integrally fitted, or may be in ohmic contact.

[0112] A third insertion hole **14***b* for inserting the microwave feed unit **2** is provided on the end surface of the third boss **15***b* opposite to the feed hole **116**. The third insertion hole **14***b* is a blind hole, which is a straight cylindrical channel, and extends toward the inside of the third conductor column **121***b* along the end surface of the third boss **15***b* corresponding to the feed hole **116**. The bottom of the third insertion hole **14***b* is located in the third conductor column **121***b*.

[0113] In this embodiment, the length of the third insertion hole **14***b* is greater than the length of the insertion hole **14** in Embodiment 1 and the length of the second insertion hole **14***a* in Embodiment 2. It may be understood that, by increasing the depth by which the inner conductor **22** of the microwave feed unit **2** is inserted into the third inner conductor unit **12***b*, reliability of effectively feeding to the third inner conductor unit **12***b* by the microwave feed unit **2** can be further improved.

[0114] For the third conductor disk **122***b* and the third probe apparatus **123***b*, refer to the conductor disk **122** and the probe apparatus **123** in Embodiment 1. Third conductor disk **122***b* and the third probe apparatus **123***b* respectively have the same shape, connection position, connection relationship, and function as the conductor disk **122** and the probe apparatus **123** in Embodiment 1, and details are not described herein again.

[0115] As shown in FIG. **8** to FIG. **9**, the third microwave feed unit **2***b* may be a coaxial connector in this embodiment, is inserted from the feed hole **116** located on the peripheral side of the outer conductor unit **11**, and is mounted on the outer conductor unit **11**. The third microwave feed unit **2***b* includes a third outer conductor **21***b*, a third inner conductor **22***b* arranged in the third outer conductor **21***b*, and a third dielectric layer **23***b* between the third inner conductor **22***a* and the third outer conductor **21***b*.

[0116] In this embodiment, the third outer conductor **21***b* has a straight cylindrical structure with an opening structure at two ends; and when the third microwave feed unit **2***b* is mounted on the outer conductor unit **11**, the side wall of the third outer conductor **21***b* is in ohmic contact with the inner wall surface of the feed hole **116** located on the outer conductor unit **11**.

[0117] The third inner conductor **22***b* is a straight-line, needle-like structure, one end of the third inner conductor **22***b* is the connecting end **221** and located in the third outer conductor **21***b*; and the other end is the feed end **222** and located outside the third outer conductor **21***b*. The connecting end **221** is configured to be connected to the microwave-generating device. The feed end **222** is relatively close to the third inner conductor unit **12***b* when the third microwave feed unit **2***b* is mounted on the outer conductor unit **11**, and is configured to be inserted into the third insertion hole **14***b* of the third boss **15***b*, to implement electric coupling or magnetic coupling, to guide the microwaves to the third microwave feed unit **2***b*.

[0118] Referring to FIG. **9**, although the third inner conductor **22***b* extends into the third insertion hole **14***b*, the first gap **241** and the second gap **242** exist between the third inner conductor **22***b* and the third insertion hole **14***b*. However, the microwaves can also be well fed.

[0119] FIG. **10** and FIG. **11** show a fourth microwave heating assembly **100***c* according to Embodiment 4 of the present invention. A difference between this embodiment and Embodiment 1 lies in: The microwave heating assembly **100** and the microwave feed unit **2** are respectively replaced with a fourth microwave heating assembly **100***c* and a fourth microwave feed unit **2***c*.

[0120] As shown in FIG. **10**, the fourth microwave heating assembly **100***c* is approximately in the shape of a circular column in appearance, and may include a fourth outer conductor unit **11***c*, a fourth inner conductor unit **12***c*, and a fourth accommodating base **13***c*. The fourth outer conductor unit **11***c* is configured in a cylindrical shape, includes a fourth closed end **111***c* and a fourth open end **112***c* opposite to the fourth closed end **111***c*, and can define a semi-closed fourth cavity. The fourth cavity is in the shape of a straight circular column. The fourth inner conductor unit **12***c* is arranged in the fourth cavity of the fourth outer conductor unit **11***c*, and the axis of the fourth inner conductor unit **12***c* coincides with the axis of the fourth outer conductor unit **11***c*. One end of the fourth inner conductor unit **12***c* is connected to the fourth closed end **111***c* of the fourth outer conductor unit **11***c* and is in ohmic contact with the end wall of the fourth closed end **111***c*, to form a short-circuit end of the fourth microwave heating assembly **100***c*; and the other end of the fourth inner conductor unit **12***c* extends toward the fourth open end **112***c* of the fourth outer conductor unit **11***c* and is not in contact with the fourth outer conductor unit **11***c*, to form an open-circuit end of the fourth microwave heating assembly **100***c*. The fourth accommodating base **13***c* is mounted at the fourth open end **112***c* of the fourth outer conductor unit **11***c*.

[0121] In this embodiment, the fourth outer conductor unit **11***c* may include a fourth conductor side wall **114***c* and a fourth conductor end wall **115***c* that are conductive. The fourth conductor side wall **114***c* may be cylindrical and includes two ends that are oppositely arranged. The fourth conductor end wall **115***c* is closed at a first end of the fourth conductor side wall **114***c*, to form the fourth closed end **111***c*. A second end of the fourth conductor side wall **114***c* has an open structure, to form the fourth open end **112***c*, for the fourth accommodating base **13***c* to be mounted therein. In addition, a fourth feed hole **116***c* radially running through is provided at a position close to the fourth conductor end wall **115***c* of the fourth conductor side wall **114***c*. The fourth feed hole **116***c* may be used for inserting the fourth microwave feed unit **2***c* into the fourth outer conductor unit **11***c*. The hole size of the fourth feed hole **116***c* matches the outer diameter of the fourth outer conductor **21***c* of the fourth microwave feed unit **2***c*.

[0122] A fourth insertion hole **14***c* for inserting the fourth microwave feed unit **2***c* is further provided on the fourth conductor end wall **115***c*. The fourth insertion hole **14***c* is a blind hole, and is recessed along the fourth conductor end wall **115***c* to be formed. The recessed direction of the fourth insertion hole **14***c* is parallel to the axial direction of the fourth outer conductor unit **11***c*. An opening of the fourth insertion hole **14***c* is opposite to the fourth open end **112***c* of the fourth outer conductor unit **11***c*.

[0123] As shown in FIG. **10** and FIG. **11**, in this embodiment, the fourth inner conductor unit **12***c* includes a fourth conductor column **121***c*, a fourth conductor disk **122***c* located above the fourth conductor column **121***c*, and a fourth probe apparatus **123***c* embedded in the fourth conductor disk **122***c*.

[0124] The fourth conductor column **121***c* is in the shape of a circular column, the end (namely, the bottom end) of the fourth conductor column **121***c* away from the fourth open end **112***c* of the fourth outer conductor unit **11***c* is coaxially connected to the fourth conductor end wall **115***c* of the fourth outer conductor unit **11***c*, and the end (namely, the top end) of the fourth conductor column **121***c* close to the fourth open end **112***c* extends toward the fourth open end **112***c* of the fourth outer conductor unit **11***c*. The diameter of the fourth conductor column **121***c* is less than the inner diameter of the fourth outer conductor unit **11***c*.

[0125] The fourth conductor disk **122***c* in the shape of a disk, the diameter of the fourth conductor disk **122***c* is greater than the diameter of the fourth conductor column **121***c*, and is arranged on the top end of the fourth conductor column **121***c*. The fourth conductor disk **122***c* may be integrally fitted to the fourth conductor column **121***c*, or may be in ohmic contact with the fourth conductor column **121***c*.

[0126] The fourth probe apparatus **123***c* may include a longitudinal fourth probe; the lower end of the fourth probe is inserted from the top end of the fourth conductor column **121***c*, and is coaxially embedded in the fourth conductor disk **122***c*, to form good ohmic contact with the fourth conductor disk **122***c*; and the upper end of the fourth probe extends upward into the fourth accommodating base **13***c*.

[0127] As shown in FIG. **10**, for the fourth accommodating base **13***c*, refer to the accommodating base **13** in Embodiment 1. The fourth accommodating base **13***c* has the same shape, connection position, connection relationship, and function as the accommodating base **13** in Embodiment 1, and details are not described herein again.

[0128] As shown in FIG. **10** and FIG. **11**, the fourth microwave feed unit **2***c* may be a coaxial connector in this embodiment, is inserted from the fourth feed hole **116***c* located on the peripheral side of the fourth outer conductor unit **11***c*, and is mounted on the fourth outer conductor unit **11***c*. The fourth microwave feed unit **2***c* includes a fourth outer conductor **21***c*, a fourth inner conductor **22***c* arranged in the fourth outer conductor **21***c*, and a fourth dielectric layer **23***c* between the fourth inner conductor **22***a* and the fourth outer conductor **21***c*.

[0129] In this embodiment, the fourth outer conductor **21***c* has a straight cylindrical structure with an opening structure at two ends; and when the fourth microwave feed unit **2***c* is mounted on the fourth outer conductor unit **11***c*, the side wall of the fourth outer conductor **21***c* is in ohmic contact with the inner wall surface of the fourth feed hole **116***c* located on the fourth outer conductor unit **11***c*.

[0130] The fourth inner conductor **22***c* has an L-shaped, needle-like structure, and includes a first segment **223***c* perpendicular to the axis of the fourth outer conductor unit **11***c* and a second segment **224***c* parallel to the axis of the fourth outer conductor unit **11***c*. The end portion of the first segment **223***c* away from the second segment **224***c* is the connecting end **221**, and is configured to be connected to the microwave-generating device, to receive the microwaves. The end portion of the second segment **224***c* away from the first segment **223***c* is the feed end **222**, and is configured to be inserted into the fourth insertion hole **14***c* on the fourth conductor end wall **115***c* to implement electrical coupling or magnetic coupling, to guide the microwaves to the fourth inner conductor unit **12***c*.

[0131] Referring to FIG. **11**, the fourth inner conductor **22***c* is completely inserted into the fourth insertion hole **14***c*, and forms good ohmic contact with the fourth outer conductor unit **11***c*, to successfully feed the microwaves.

[0132] FIG. **12** and FIG. **13** show a fifth microwave heating assembly **100***d* according to Embodiment 5 of the present invention. A difference between this embodiment and Embodiment 4 lies in: The fourth outer conductor unit **11***c* and the fourth microwave feed unit **2***c* are respectively replaced with a fifth outer conductor unit **11***d* and a fifth microwave feed unit **2***d*.
[0133] As shown in FIG. **12**, the fifth outer conductor unit **11***d* is configured in a cylindrical shape, includes a fifth closed end **111***d* and a fifth open end **112***d* opposite to the fifth closed end **111***d*, and can define a semi-closed fifth cavity. The fifth cavity is in the shape of a straight circular column.
[0134] In this embodiment, the fifth outer conductor unit **11***d* may include a fifth conductor side wall **114***d* and a fifth conductor end wall **115***d* that are conductive. The fifth conductor side wall **114***d* may be cylindrical and includes two ends that are oppositely arranged. The fifth conductor end wall **115***d* is closed at a first end of the fifth conductor side wall **114***d*, to form the fifth closed end **111***d*. A second end of the fifth conductor side wall **114***d* has an open structure, to form the fifth open end **112***d*. In addition, a fifth feed hole **116***d* radially running through is provided at a position close to the fifth conductor end wall **115***d* of the fifth conductor side wall **114***d*. The fifth feed hole **116***d* may be used for inserting the fifth microwave feed unit **2***d* into the fifth outer conductor unit **11***d*. The hole size of the fifth feed hole **116***d* matches the outer diameter of the fifth outer conductor **21***d* of the fifth microwave feed unit **2***d*.
[0135] A fifth boss **15***d* protruding in the direction of the fifth open end **112***d* is further arranged on the fifth conductor end wall **115***d*, and the protrusion direction of the fifth boss **15***d* is parallel to the axial direction of the fifth outer conductor unit **11***d*. A fifth insertion hole **14***d* for inserting the fifth microwave feed unit **2***d* is provided on the top of the fifth boss **15***d*. The fifth insertion hole **14***d* is a blind hole, and is recessed along the top wall of the fifth boss **15***d* to be formed. An opening of the fifth insertion hole **14***d* is opposite to the fifth open end **112***d* of the fifth outer conductor unit **11***d*.
[0136] As shown in FIG. **12** and FIG. **13**, the fifth microwave feed unit **2***d* may be a coaxial connector in this embodiment, is inserted from the fifth feed hole **116***d* located on the peripheral side of the fifth outer conductor unit **11***d*, and is mounted on the fifth outer conductor unit **11***d*. The fifth microwave feed unit **2***d* includes a fifth outer conductor **21***d*, a fifth inner conductor **22***d* arranged in the fifth outer conductor **21***d*, and a fifth dielectric layer **23***d* between the fifth inner conductor **22***a* and the fifth outer conductor **21***d*.
[0137] In this embodiment, the fifth outer conductor **21***d* has a straight cylindrical structure with an opening structure at two ends; and when the fifth microwave feed unit **2***d* is mounted on the fifth outer conductor unit **11***d*, the side wall of the fifth outer conductor **21***d* is in ohmic contact with the inner wall surface of the fifth feed hole **116***d* located on the fifth outer conductor unit **11***d*.
[0138] The fifth inner conductor **22***d* has an L-shaped, needle-like structure, and includes a first segment **223***d* perpendicular to the axis of the fifth outer conductor unit **11***d* and a second segment **224***d* parallel to the axis of the fifth outer conductor unit **11***d*. The end portion of the first segment **223***d* away from the second segment **224***d* is the connecting end **221**, and is configured to be connected to the microwave-generating device, to receive the microwaves. The end portion of the second segment **224***d* away from the first segment **223***d* is the feed end **222**, configured to be inserted into the fifth insertion hole **14** on the fifth boss **15** to implement electrical coupling or magnetic coupling, to guide the microwaves to the fifth inner conductor unit **12**.
[0139] Referring to FIG. **13**, the fifth inner conductor **22***d* is completely inserted into the fifth insertion hole **14***d*, and forms good ohmic contact with the fifth boss **15***d*, to successfully feed the microwaves.
[0140] FIG. **14** and FIG. **15** show a sixth microwave heating assembly **100***e* according to Embodiment 6 of the present invention. A difference between this embodiment and Embodiment 4 lies in: The fourth outer conductor unit **11***c* and the fourth microwave feed unit **2***c* are respectively replaced with a sixth outer conductor unit **11***e* and a sixth microwave feed unit **2***e*.
[0141] As shown in FIG. **14**, the sixth outer conductor unit **11***e* is configured in a cylindrical shape, includes a sixth closed end **111***e* and a sixth open end **112***e* opposite to the sixth closed end **111***e*,

and can define a semi-closed sixth cavity. The sixth cavity is in the shape of a straight circular column.
[0142] In this embodiment, the sixth outer conductor unit **11***e* may include a sixth conductor side wall **114***e* and a sixth conductor end wall **115***e* that are conductive. The sixth conductor side wall **114***e* may be cylindrical and includes two ends that are oppositely arranged. The sixth conductor end wall **115***e* is closed at a first end of the sixth conductor side wall **114***e*, to form the sixth closed end **111***e*. A second end of the sixth conductor side wall **114***e* has an open structure, to form the sixth open end **112***e*. In addition, a sixth feed hole **116***e* radially running through is provided at a position close to the sixth conductor end wall **115***e* of the sixth conductor side wall **114***e*. The sixth feed hole **116***e* may be used for inserting the sixth microwave feed unit **2***e* into the sixth outer conductor unit **11***e*. The hole size of the sixth feed hole **116***e* matches the outer diameter of the sixth outer conductor **21***e* of the sixth microwave feed unit **2***e*.
[0143] As shown in FIG. **14** and FIG. **15**, a sixth boss **15***e* protruding outward is arranged at a peripheral position of the sixth feed hole **116***e* (for example, above the sixth feed hole **116**) on the sixth conductor side wall **114***e*, and a sixth insertion hole **14***e* for inserting the sixth microwave feed unit **2***e* is further provided on the sixth conductor side wall **114***e*. The sixth insertion hole **14***e* is a blind hole, runs through the sixth conductor side wall **114***e*, and extends toward the sixth boss **15***e*. The bottom of the sixth insertion hole **14***e* extends into the sixth boss **15***e*. A direction in which the sixth insertion hole **14***e* extends is perpendicular to the axial direction of the sixth outer conductor unit **11***e*.
[0144] As shown in FIG. **14** and FIG. **15**, the sixth microwave feed unit **2***e* may be a coaxial connector in this embodiment, is inserted from the sixth feed hole **116***e* located on the peripheral side of the sixth outer conductor unit **11***e*, and is mounted on the sixth outer conductor unit **11***e*. The sixth microwave feed unit **2***e* includes a sixth outer conductor **21***e*, a sixth inner conductor **22***e* arranged in the sixth outer conductor **21***e*, and a sixth dielectric layer **23***e* between the sixth inner conductor **22***a* and the sixth outer conductor **21***e*.
[0145] In this embodiment, the sixth outer conductor **21***e* has a straight cylindrical structure with an opening structure at two ends; and when the sixth microwave feed unit **2***e* is mounted on the sixth outer conductor unit **11***e*, the side wall of the sixth outer conductor **21***e* is in ohmic contact with the inner wall surface of the sixth feed hole **116***e* located on the sixth outer conductor unit **11***e*.
[0146] The sixth inner conductor **22***e* approximately has a U-shaped, needle-like structure, and includes a first segment **223***e* perpendicular to the axis of the sixth outer conductor unit **11***e*, a second segment **224***e* parallel to the axis of the sixth outer conductor unit **11***e*, and a third segment **225***e* parallel to the first segment **223***e*. A partial structure of the first segment **223***e* is arranged in the sixth outer conductor **21***e*, and the end portion of the first segment **223***e* away from the second segment **224***e* is the connecting end **221**, and is configured to be connected to the microwave-generating device, to receive the microwaves. The third segment **225***e* is located outside the sixth outer conductor **21***e*, and when the sixth microwave feed unit **2***e* is mounted on the sixth outer conductor unit **11***e*, the third segment **225***e* extends into the sixth outer conductor unit **11***e*. The end portion of the third segment **225***e* away from the first segment **223***e* is the feed end **222**, and is configured to be inserted into the sixth insertion hole **14***e* located on the sixth conductor side wall **114***e* of the sixth outer conductor unit **11***e* to implement electric coupling or magnetic coupling, to feed the microwaves. The second segment **224***e* is used as a connection part connecting the first segment **223***e* to the third segment **225***e*, and is connected to the first segment **223***e* and the third segment **225***e*, where a connection manner may be integral connection.
[0147] Referring to FIG. **11**, the sixth inner conductor **22***e* is completely inserted into the sixth insertion hole **14***e*, and forms good ohmic contact with the sixth outer conductor unit **11***e*, to successfully feed the microwaves.
[0148] It should be noted that the sixth boss **15***e* is used in this embodiment as a preferred solution, and is not a necessary technical feature in this embodiment. When no sixth boss **15***e* is provided,

the sixth insertion hole **14***e* may be provided on the sixth conductor side wall **114***e*, and is recessed outward along the inner wall surface of the sixth conductor side wall **114***e* to be formed. The bottom of the sixth insertion hole **14***e* is located in the side wall of the sixth conductor side wall **114***e*.

[0149] It may be understood that, in combination with Embodiment 1 to Embodiment 6, in the aerosol-generating device in the present invention, a insertion hole **14** is provided on an inner conductor unit **12** or the inner side of an outer conductor unit **11**, where a specific position of the insertion hole **14** may be on a conductor column **121**, a conductor end wall **115** of the outer conductor unit **11**, or a conductor side wall **114** of the outer conductor unit **11**, or may be on a boss (**15***a*, **15***b*, or **15***d*) on the conductor column **121** or the conductor end wall **115** of the outer conductor unit **11**. Therefore, when the microwave feed unit **2** is mounted on the outer conductor unit **11**, and the inner conductor **22** of the microwave feed unit **2** is inserted into the insertion hole **14**, even if the inner conductor **22** is not in contact with the insertion hole **14**, the characteristic of capacitive transmission of microwaves can be used, thereby implementing good microwave feeding, and improving reliability of microwave feeding. In addition, arrangement of the boss (**15***a*, **15***b*, or **15***d*) can increase the depth of the insertion hole **14**, to further enhance reliability of microwave feeding.

[0150] The following experimental data, with reference to FIG. **16** to FIG. **29**, specifically demonstrates the function of the insertion hole **14** in the aerosol-generating device.

[0151] In Experiment 1, a test was performed by using the microwave heating assembly **100** in Embodiment 1. In the experiment, the diameter of the inner conductor **22** was 0.7 mm, the diameter of the insertion hole **14** was 0.76 mm, the depth by which the inner conductor **22** was inserted into the insertion hole **14** was 2.5 mm, the second gap **242** of 0.03 mm existed between the outer peripheral side surface of the inner conductor **22** and the inner peripheral wall surface of the insertion hole **14**, and the first gap **241** of 0.01 mm existed between the feed end **222** of the inner conductor **22** and the bottom of the insertion hole **14**. FIG. **16** is a scattering parameter diagram obtained by testing in Experiment 1 based on the microwave heating assembly **100** according to Embodiment 1. It can be seen from FIG. **16** that, even if the inner conductor **22** cannot be in good contact with the insertion hole **14**, a scattering parameter S**11** can reach −20.6390 dB.

[0152] In Experiment 2, a test was still performed by using the microwave heating assembly **100** in Embodiment 1. In the experiment, the diameter of the inner conductor **22** was 0.7 mm, the diameter of the insertion hole **14** was 0.76 mm, the depth by which the inner conductor **22** was inserted into the insertion hole **14** was 2.5 mm, the second gap **242** of 0.03 mm existed between the outer peripheral side surface of the inner conductor **22** and the inner peripheral wall surface of the insertion hole **14**, and the first gap **241** of 0.05 mm existed between the feed end **222** of the inner conductor **22** and the bottom of the insertion hole **14**. FIG. **17** is a scattering parameter diagram obtained by testing in Experiment 2 based on the microwave heating assembly **100** according to Embodiment 1. It can be seen from FIG. **17** that, in the microwave heating assembly **100** in Embodiment 1, even if the inner conductor **22** of the microwave heating assembly **100** cannot be in good contact with the insertion hole **14**, the scattering parameter S**11** reaches −17.9160 dB.

[0153] In Experiment 3, a test was still performed by using the microwave heating assembly **100** in Embodiment 1. In the experiment, the diameter of the inner conductor **22** was 0.7 mm, the diameter of the insertion hole **14** was 0.76 mm, the depth by which the inner conductor **22** was inserted into the insertion hole **14** was 2.5 mm, the second gap **242** of 0.03 mm existed between the outer peripheral side surface of the inner conductor **22** and the inner peripheral wall surface of the insertion hole **14**, and the first gap **241** of 0.1 mm existed between the feed end **222** of the inner conductor **22** and the bottom of the insertion hole **14**. FIG. **18** is a scattering parameter diagram obtained by testing in Experiment 3 based on the microwave heating assembly **100** according to Embodiment 1. It can be seen from FIG. **18** that, in the microwave heating assembly **100** in Embodiment 1, even if the inner conductor **22** of the microwave heating assembly **100** cannot be in

good contact with the insertion hole **14**, the scattering parameter S**11** reaches −17.4776 dB.
[0154] In Experiment 4, a test was still performed by using the microwave heating assembly **100** in Embodiment 1. In the experiment, the diameter of the inner conductor **22** was 0.7 mm, the diameter of the insertion hole **14** was 0.75 mm, the depth by which the inner conductor **22** was inserted into the insertion hole **14** was 2.5 mm, the second gap **242** of 0.025 mm existed between the outer peripheral side surface of the inner conductor **22** and the inner peripheral wall surface of the insertion hole **14**, and the first gap **241** of 0.05 mm existed between the feed end **222** of the inner conductor **22** and the bottom of the insertion hole **14**. FIG. **19** is a scattering parameter diagram obtained by testing in Experiment 4 based on the microwave heating assembly **100** according to Embodiment 1. It can be seen from FIG. **19** that, in the microwave heating assembly **100** in Embodiment 1, even if the inner conductor **22** of the microwave heating assembly **100** cannot be in good contact with the insertion hole **14**, the scattering parameter S**11** reaches −20.9355 dB.
[0155] In Experiment 5, a test was still performed by using the microwave heating assembly **100** in Embodiment 1. In the experiment, the diameter of the inner conductor **22** was 0.7 mm, the diameter of the insertion hole **14** was 0.75 mm, the depth by which the inner conductor **22** was inserted into the insertion hole **14** was 2.5 mm, the second gap **242** of 0.03 mm existed between the outer peripheral side surface of the inner conductor **22** and the inner peripheral wall surface of the insertion hole **14**, and the first gap **241** of 0.1 mm existed between the feed end **222** of the inner conductor **22** and the bottom of the insertion hole **14**. FIG. **20** is a scattering parameter diagram obtained by testing in Experiment **5** based on the microwave heating assembly **100** according to Embodiment 1. It can be seen from FIG. **20** that, in the microwave heating assembly **100** in Embodiment 1, even if the inner conductor **22** of the microwave heating assembly **100** cannot be in good contact with the insertion hole **14**, the scattering parameter S**11** reaches −20.5002 dB.
[0156] In Experiment 6, a test was still performed by using the microwave heating assembly **100** in Embodiment 1. In the experiment, the diameter of the inner conductor **22** was 0.7 mm, the diameter of the insertion hole **14** was 0.78 mm, the depth by which the inner conductor **22** was inserted into the insertion hole **14** was 2.5 mm, the second gap **242** of 0.04 mm existed between the outer peripheral side surface of the inner conductor **22** and the inner peripheral wall surface of the insertion hole **14**, and the first gap **241** of 0.05 mm existed between the feed end **222** of the inner conductor **22** and the bottom of the insertion hole **14**. FIG. **21** is a scattering parameter diagram obtained by testing in Experiment 6 based on the microwave heating assembly **100** according to Embodiment 1. It can be seen from FIG. **21** that, in the microwave heating assembly **100** in Embodiment 1, even if the inner conductor **22** of the microwave heating assembly **100** cannot be in good contact with the insertion hole **14**, the scattering parameter S**11** reaches −14.2081 dB.
[0157] In Experiment 7, a test was still performed by using the microwave heating assembly **100** in Embodiment 1. In the experiment, the diameter of the inner conductor **22** was 0.7 mm, the diameter of the insertion hole **14** was 0.8 mm, the depth by which the inner conductor **22** was inserted into the insertion hole **14** was 2.5 mm, the second gap **242** of 0.05 mm existed between the outer peripheral side surface of the inner conductor **22** and the inner peripheral wall surface of the insertion hole **14**, and the first gap **241** of 0.05 mm existed between the feed end **222** of the inner conductor **22** and the bottom of the insertion hole **14**. FIG. **22** is a scattering parameter diagram obtained by testing in Experiment 7 based on the microwave heating assembly **100** according to Embodiment 1. It can be seen from FIG. **22** that, in the microwave heating assembly **100** in Embodiment 1, even if the inner conductor **22** of the microwave heating assembly **100** cannot be in good contact with the insertion hole **14**, the scattering parameter S**11** reaches −10.9962 dB.
[0158] In Experiment 8, a test was still performed by using the microwave heating assembly **100** in Embodiment 1. In the experiment, the diameter of the inner conductor **22** was 0.7 mm, the diameter of the insertion hole **14** was 0.8 mm, the depth by which the inner conductor **22** was inserted into the insertion hole **14** was 1 mm, the second gap **242** of 0.05 mm existed between the outer peripheral side surface of the inner conductor **22** and the inner peripheral wall surface of the

insertion hole **14**, and the first gap **241** of 0.05 mm existed between the feed end **222** of the inner conductor **22** and the bottom of the insertion hole **14**. FIG. **23** is a scattering parameter diagram obtained by testing in Experiment **8** based on the microwave heating assembly **100** according to Embodiment 1. It can be seen from FIG. **23** that, in the microwave heating assembly **100** in Embodiment 1, even if the inner conductor **22** of the microwave heating assembly **100** cannot be in good contact with the insertion hole **14**, the scattering parameter S**11** reaches −7.9685 dB.

[0159] In Experiment 9, a test was still performed by using the microwave heating assembly **100** in Embodiment 1. In the experiment, the diameter of the inner conductor **22** was 0.7 mm, the diameter of the insertion hole **14** was 0.75 mm, the depth by which the inner conductor **22** was inserted into the insertion hole **14** was 1.2 mm, the second gap **242** of 0.025 mm existed between the outer peripheral side surface of the inner conductor **22** and the inner peripheral wall surface of the insertion hole **14**, and the first gap **241** of 0.05 mm existed between the feed end **222** of the inner conductor **22** and the bottom of the insertion hole **14**. FIG. **24** is a scattering parameter diagram obtained by testing in Experiment 9 based on the microwave heating assembly **100** according to Embodiment 1. It can be seen from FIG. **24** that, in the microwave heating assembly **100** in Embodiment 1, even if the inner conductor **22** of the microwave heating assembly **100** cannot be in good contact with the insertion hole **14**, the scattering parameter S**11** reaches −9.6033 dB.

[0160] In Experiment 10, a test was still performed by using the microwave heating assembly **100** in Embodiment 1. In the experiment, the diameter of the inner conductor **22** was 0.7 mm, the diameter of the insertion hole **14** was 0.75 mm, the depth by which the inner conductor **22** was inserted into the insertion hole **14** was 1.5 mm, the second gap **242** of 0.025 mm existed between the outer peripheral side surface of the inner conductor **22** and the inner peripheral wall surface of the insertion hole **14**, and the first gap **241** of 0.05 mm existed between the feed end **222** of the inner conductor **22** and the bottom of the insertion hole **14**. FIG. **25** is a scattering parameter diagram obtained by testing in Experiment **10** based on the microwave heating assembly **100** according to Embodiment 1. It can be seen from FIG. **25** that, in the microwave heating assembly **100** in Embodiment 1, even if the inner conductor **22** of the microwave heating assembly **100** cannot be in good contact with the insertion hole **14**, the scattering parameter S**11** reaches −13.0450 dB.

[0161] In Experiment 11, a test was still performed by using the microwave heating assembly **100** in Embodiment 1. In the experiment, the diameter of the inner conductor **22** was 0.7 mm, the diameter of the insertion hole **14** was 0.75 mm, the depth by which the inner conductor **22** was inserted into the insertion hole **14** was 1.8 mm, the second gap **242** of 0.025 mm existed between the outer peripheral side surface of the inner conductor **22** and the inner peripheral wall surface of the insertion hole **14**, and the first gap **241** of 0.05 mm existed between the feed end **222** of the inner conductor **22** and the bottom of the insertion hole **14**. FIG. **26** is a scattering parameter diagram obtained by testing in Experiment 11 based on the microwave heating assembly **100** according to Embodiment 1. It can be seen from FIG. **26** that, in the microwave heating assembly **100** in Embodiment 1, even if the inner conductor **22** of the microwave heating assembly **100** cannot be in good contact with the insertion hole **14**, the scattering parameter S**11** reaches −14.6733 dB.

[0162] In Experiment 12, a test was still performed by using the microwave heating assembly **100** in Embodiment 1. In the experiment, the diameter of the inner conductor **22** was 0.7 mm, the diameter of the insertion hole **14** was 0.75 mm, the depth by which the inner conductor **22** was inserted into the insertion hole **14** was 1.8 mm, the second gap **242** of 0.025 mm existed between the outer peripheral side surface of the inner conductor **22** and the inner peripheral wall surface of the insertion hole **14**, and the first gap **241** of 0.03 mm existed between the feed end **222** of the inner conductor **22** and the bottom of the insertion hole **14**. FIG. **27** is a scattering parameter diagram obtained by testing in Experiment **12** based on the microwave heating assembly **100** according to Embodiment 1. It can be seen from FIG. **27** that, in the microwave heating assembly

100 in Embodiment 1, even if the inner conductor **22** of the microwave heating assembly **100** cannot be in good contact with the insertion hole **14**, the scattering parameter S**11** reaches −15.33 dB.

[0163] In Experiment 13, a test was performed by using the second microwave heating assembly **100***a* in Embodiment 2. In the experiment, the diameter of the inner conductor **22** was 0.7 mm, the diameter of the second insertion hole **14***a* was 0.75 mm, the depth by which the inner conductor **22** was inserted into the second insertion hole **14***a* was 1.8 mm, the second gap **242** of 0.01 mm existed between the outer peripheral side surface of the inner conductor **22** and the inner peripheral wall surface of the second insertion hole **14***a*, and the first gap **241** of 0.025 mm existed between the feed end **222** of the inner conductor **22** and the bottom of the second insertion hole **14***a*. FIG. **28** is a scattering parameter diagram obtained by testing in Experiment 13 based on the second microwave heating assembly **100***a* according to Embodiment 2. It can be seen from FIG. **28** that, in the second microwave heating assembly **100***a* in Embodiment 2, even if the inner conductor **22** of the microwave heating assembly **100***a* cannot be in good contact with the second insertion hole **14***a*, the scattering parameter S**11** reaches −17.7956 dB.

[0164] In Experiment 14, a test was performed by using the second microwave heating assembly **100***a* in Embodiment 2. In the experiment, the diameter of the inner conductor **22** was 0.7 mm, the diameter of the second insertion hole **14***a* was 0.75 mm, the depth by which the inner conductor **22** was inserted into the second insertion hole **14***a* was 1.8 mm, the second gap **242** of 0.03 mm existed between the outer peripheral side surface of the inner conductor **22** and the inner peripheral wall surface of the second insertion hole **14***a*, and the first gap **241** of 0.025 mm existed between the feed end **222** of the inner conductor **22** and the bottom of the second insertion hole **14***a*. FIG. **29** is a scattering parameter diagram obtained by testing in Experiment **14** based on the second microwave heating assembly **100***a* according to Embodiment 2. It can be seen from FIG. **29** that, in the second microwave heating assembly **100***a* in Embodiment 2, even if the inner conductor **22** of the microwave heating assembly **100***a* cannot be in good contact with the second insertion hole **14***a*, the scattering parameter S**11** reaches −13.8726 dB.

[0165] In conclusion, Experiment 1 to Experiment 12 can demonstrate that good microwave feeding can be achieved when the gap between the inner conductor **22** and the insertion hole **14** is within 0.1 mm, and as the gap gradually decreases, an effect of microwave feeding gradually is improved. When the gap between the inner conductor **22** and the insertion hole **14** is within 0.03 mm, the microwaves can still be efficiently fed to the microwave heating assembly **100**.

[0166] Therefore, the gap between the inner conductor **22** and the insertion hole **14** may be controlled to be within 0.1 mm, preferably, within 0.05 mm, and further, within 0.03 mm. This tolerance range is achievable during a machining process. Therefore, this structure makes actual machining and assembly of the microwave heating assembly **100** feasible, and also greatly improves the reliability of microwave feeding therein. In particular, any material has a specific dimensional deformation as the temperature changes, but in the present invention, the microwaves can still be efficiently fed even after deformation occurs.

[0167] Secondly, Experiment 13 and Experiment 14 can demonstrate that by providing the insertion hole **14** on the conductor column **121** or on the boss (**15***a*, **15***b*, or **15***d*) on the conductor end wall **115** of the outer conductor unit **11**, a feeding effect is similar to the experimental results of Experiment 1 to Experiment 12, and the microwave feed unit **2** can also effectively feed microwaves through capacitive feeding.

[0168] While the invention has been illustrated and described in detail in the drawings and foregoing description, such illustration and description are to be considered illustrative or exemplary and not restrictive. It will be understood that changes and modifications may be made by those of ordinary skill within the scope of the following claims. In particular, the present invention covers further embodiments with any combination of features from different embodiments described above and below. Additionally, statements made herein characterizing the

invention refer to an embodiment of the invention and not necessarily all embodiments.
[0169] The terms used in the claims should be construed to have the broadest reasonable interpretation consistent with the foregoing description. For example, the use of the article “a” or “the” in introducing an element should not be interpreted as being exclusive of a plurality of elements. Likewise, the recitation of “or” should be interpreted as being inclusive, such that the recitation of “A or B” is not exclusive of “A and B,” unless it is clear from the context or the foregoing description that only one of A and B is intended. Further, the recitation of “at least one of A, B and C” should be interpreted as one or more of a group of elements consisting of A, B and C, and should not be interpreted as requiring at least one of each of the listed elements A, B and C, regardless of whether A, B and C are related as categories or otherwise. Moreover, the recitation of “A, B and/or C” or “at least one of A, B or C” should be interpreted as including any singular entity from the listed elements, e.g., A, any subset from the listed elements, e.g., A and B, or the entire list of elements A, B and C.

Claims

1. A microwave heating assembly for an aerosol-generating device, the microwave heating assembly comprising: an outer conductor unit in a cylindrical shape and comprising an open end, a closed end opposite the open end, and a cavity located between the open end and the closed end; an inner conductor unit arranged in the cavity, one end of the inner conductor being connected to an end wall of the closed end, and an other end of the inner conductor unit extending toward the open end; and a microwave feed unit, comprising: an outer conductor mounted on the outer conductor unit and in ohmic contact with the outer conductor unit, and an inner conductor arranged in the outer conductor and comprising a feed end extending into the cavity so as to feed microwaves, wherein an insertion hole is provided on an inner side of the outer conductor unit or on the inner conductor unit, the feed end extending into the insertion hole.
2. The microwave heating assembly of claim 1, wherein the feed end is in ohmic contact with an inner wall surface of the insertion hole.
3. The microwave heating assembly of claim 1, wherein a first gap exists between an end surface of the feed end and a bottom of the insertion hole, the first gap being less than or equal to 0.1 mm, and wherein a second gap exists between an outer peripheral wall surface of the feed end and an inner peripheral wall surface of the insertion hole, the second gap being less than or equal to 0.1 mm.
4. The microwave heating assembly of claim 1, wherein the insertion hole is a blind hole.
5. The microwave heating assembly of claim 1, wherein a depth of the insertion hole ranges from 0.9 mm to 2.6 mm.
6. The microwave heating assembly of claim 1, wherein the insertion hole is cylindrical, and wherein a diameter of the insertion hole ranges from 0.65 mm to 0.9 mm.
7. The microwave heating assembly of claim 1, wherein a feed hole that communicates the cavity with an outside is provided on a side wall of the outer conductor unit, and wherein the outer conductor is embedded in the feed hole.
8. The microwave heating assembly of claim 7, wherein the inner conductor unit comprises a conductor column, the conductor column comprising a fixed end and a free end, the fixed end being connected to the closed end and in ohmic contact with the end wall of the closed end, the free end extending toward the open end.
9. The microwave heating assembly of claim 8, wherein the insertion hole is provided on the outer peripheral wall of the conductor column and is opposite the feed hole, and wherein the insertion hole extends in a radial direction of the conductor column.
10. The microwave heating assembly of claim 8, wherein the inner conductor unit comprises a boss fitted to a side wall of the conductor column, wherein the boss protrudes from the conductor column toward the feed hole, and wherein the insertion hole is formed in the boss and extends

away from the feed hole and along an end surface of the boss facing the feed hole.
11. The microwave heating assembly of claim 10, wherein a bottom of the insertion hole extends into the conductor column.
12. The microwave heating assembly of claim 9, wherein the inner conductor is in a shape of a straight line and extends into the insertion hole in a direction perpendicular to an axis of the conductor column.
13. The microwave heating assembly of claim 1, wherein the insertion hole is formed on an end wall of the closed end.
14. The microwave heating assembly of claim 1, wherein a boss protruding toward the open end is provided on an end wall of the closed end, and wherein the insertion hole is provided on the boss.
15. The microwave heating assembly of claim 13, wherein the inner conductor is L-shaped and comprises a first segment and a second segment connected to the first segment, wherein the end of the first segment away from the second segment is configured to receive microwaves, and wherein an end of the second segment away from the first segment is the feed end.
16. The microwave heating assembly of claim 1, wherein the insertion hole is provided on an inner peripheral side wall of the outer conductor unit.
17. The microwave heating assembly of claim 1, wherein a boss protruding outward is arranged on an outer surface of the outer conductor unit, wherein the insertion hole runs through a wall surface of the outer conductor unit and extends toward the boss, wherein an opening of the insertion hole is formed on the inner wall surface of the outer conductor unit, and wherein a bottom of the insertion hole extends into the boss.
18. The microwave heating assembly of claim 16, wherein the inner conductor is U-shaped and comprises a first segment, a second segment, and a third segment, wherein the third segment is parallel to the first segment, and two ends of the second segment are respectively connected to the first segment and the third segment, and wherein an end of the first segment away from the second segment is configured to receive microwaves, and an end of the third segment away from the second segment is the feed end.
19. The microwave heating assembly of claim 1, further comprising: an accommodating base mounted on the open end, the accommodating base comprising an accommodating portion configured to accommodate an aerosol-generation substrate, the accommodating portion being located in the cavity.
20. An aerosol-generating device, comprising: a microwave-generating device; and the microwave heating assembly of claim 1, wherein the microwave feed unit is connected to the microwave-generating device.