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(54) **CERAMIC ATOMIZER**

(57) The disclosure provides a ceramic atomizer including a mouthpiece (1); an atomizing rod (6); and a ceramic core (10). The ceramic core is disposed in the atomizing rod; and the mouthpiece is disposed on the top end of the atomizing rod.

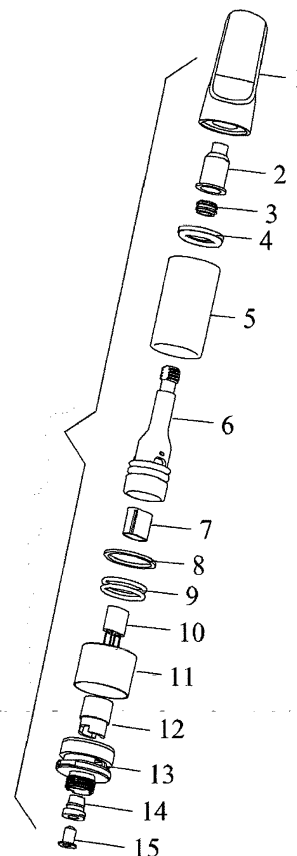


FIG. 1

Description

[0001] The disclosure relates to a ceramic atomizer.

[0002] The mouthpiece and the atomizing rod of conventional atomizers are made of plastic or metal materials. The air flow and smoke will produce unpleasant smell when passing through the plastic or metal materials, which is not environment-friendly and unhealthy to users.

[0003] The disclosure provides a ceramic atomizer comprising a mouthpiece; an atomizing rod; and a ceramic core. The ceramic core is disposed in the atomizing rod; and the mouthpiece is disposed on a top end of the atomizing rod.

[0004] In a class of this embodiment, the mouthpiece is duckbilled, cylindrical, or semicircular and comprises an air channel.

[0005] In a class of this embodiment, the mouthpiece comprises ceramic and zirconia composite material.

[0006] In a class of this embodiment, the atomizing rod comprises an air passage and comprises ceramic and zirconia composite material.

[0007] In a class of this embodiment, the atomizing rod comprises two e-liquid inlets which are disposed in a line along an extension direction of the atomizing rod.

[0008] In a class of this embodiment, the ceramic core is in the shape of a runway and comprises two through holes, and heating wires are uniformly distributed in the through holes.

[0009] In a class of this embodiment, the ceramic atomizer further comprises a glass tube for storage of e-liquid; the atomizing rod is disposed in the glass tube; the mouthpiece is disposed on a top end of the glass tube and covers a top end of the atomizing rod and communicates with inner passages of the glass tube and the atomizing rod.

[0010] In a class of this embodiment, the ceramic atomizer further comprises a base; the base comprises pure copper and an inner wall of the base comprises a protruding step; a lower end of the atomizing rod is disposed in the base and clamped in the step for fixation.

[0011] The disclosure also provides an electronic cigarette comprising the aforesaid ceramic atomizer.

FIG. 1 is an exploded view of a ceramic atomizer according to one embodiment of the disclosure;

FIG. 2 is a schematic diagram of a ceramic atomizer according to one embodiment of the disclosure; and

FIG. 3 is a sectional view of a ceramic atomizer according to one embodiment of the disclosure.

[0012] To further illustrate, embodiments detailing a ceramic atomizer are described below. It should be noted that the following embodiments are intended to describe and not to limit the disclosure.

[0013] As shown in FIGS. 1-3, the disclosure provides a ceramic atomizer comprising a mouthpiece 1, a con-

necter 2, a seal ring 3, a seal gasket 4, a glass tube 5, an atomizing rod 6, a strip of nonwoven cotton 7, a silicone pad 8, a rubber ring 9, a ceramic core 10, a decorative ring 11, a ceramic base 12, a base 13, an insulating ring 14, and a joint 15.

[0014] The strip of nonwoven cotton 7 is wrapped around the ceramic core 10 to absorb e-liquid which is atomized by the ceramic core 10. The ceramic core 10 is fixed on the ceramic base 12. The ceramic base 12 is fixed in the atomizing rod 6. The base 13 is made of pure copper and the inner wall of the base comprises a protruding step. The lower end of the ceramic atomizing rod 6 is disposed in the base 13 and clamped in the step for fixation. The rubber ring 9 is disposed between the lower end of the outer wall of the atomizing rod 6 and the inner wall of the base 13 to seal the gap therebetween. The insulating ring 14 is disposed in the bottom opening of the base 13 to separate the positive and negative pins of the ceramic core 10, and the joint 15 is disposed in the insulating ring 14 for fixing and contacting the positive and negative pins of the ceramic core 10. The silicone pad 8 is disposed on the upper edge of the base 13 for sealing the bottom opening of the glass tube 5, and the decorative ring 11 is sheathed on the base 13 for fixing the glass tube 5. The glass tube 5 is nested in the decorative ring 11 and the edge of the bottom side wall of the glass tube 5 is in contact with the silicone pad 8. The atomizing rod 6 is disposed in the glass tube 5. The atomizing rod 6 comprises two e-liquid inlets which are disposed in a line along the extension direction of the atomizing rod 6. The connector 2 is disposed on the top end of the atomizing rod 6. The seal ring 3 is disposed between the connector 2 and the top end of the atomizing rod 6. The seal gasket 4 is disposed in the bottom opening of the mouthpiece 1 to seal the upper opening of the glass tube 5. The bottom end of the mouthpiece 4 is disposed in the upper opening of the glass tube 5 and the connector 2 is disposed in the cavity of the mouthpiece 1.

[0015] In certain embodiments, the mouthpiece 1, the atomizing rod 6, and the ceramic core 10 are made of ceramic materials, and optionally, quartz, crystal, mica and jade are also practicable. The ceramic core 10 can be in the shape of concave cylinder, concave square, concave hemisphere, concave cone, or concave polygon and comprises at least one through hole in the shape of circle, ellipse, triangle, quadrilateral, polygon, mesh. The heating wire of the ceramic core can be more than two alloy wires in the shape of planar sieve, network, or lattice and disposed at the bottom of the ceramic core 10 or around the periphery of the ceramic core 10 in parallel or in series.

[0016] The following advantages are associated with the ceramic atomizer of the disclosure:

[0017] 1. The mouthpiece and the atomizing rod of the atomizer are made of ceramic and zirconia, with high density, high hardness, smooth surface and impermeability, and are both environment-friendly and healthy. The mouthpiece and the atomizing rod of the conventional

atomizer are made of plastic or metal materials. The air flow and smoke will produce unpleasant smell when passing through the plastic or metal materials, which is not environment-friendly and healthy.

[0018] 2. The ceramic atomizing rod of the atomizer comprises two e-liquid inlets which are disposed in a line along the extension direction of the atomizing rod. When one of the inlets is blocked, the other can also work.

[0019] 3. The base comprises pure copper and the inner wall of the base comprises a protruding step; the lower end of the atomizing rod is disposed in the base and clamped in the step for fixation, thus preventing the breaking of the base under external force.

[0020] It will be obvious to those skilled in the art that changes and modifications may be made, and therefore, the aim in the appended claims is to cover all such changes and modifications.

mouthpiece (1) is disposed on a top end of the glass tube (5) and covers a top end of the atomizing rod (6) and communicates with inner passages of the glass tube (5) and the atomizing rod (6).

8. The ceramic atomizer of claim 1 or 7, further comprising a base (3), wherein the base (13) comprises pure copper and an inner wall of the base comprises a protruding step; a lower end of the atomizing rod (6) is disposed in the base (13) and clamped in the step for fixation.
9. An electronic cigarette, comprising the ceramic atomizer of any one of claims 1-8.

Claims

1. A ceramic atomizer, comprising:

- 1)a mouthpiece (1);
- 2)an atomizing rod (6); and
- 3)a ceramic core (10);

wherein:

the ceramic core (10) is disposed in the atomizing rod (6); and the mouthpiece (1) is disposed on a top end of the atomizing rod (6).

2. The ceramic atomizer of claim 1, wherein the mouthpiece (1) is duckbilled, cylindrical, or semicircular and comprises an air channel.
3. The ceramic atomizer of claim 2, wherein the mouthpiece comprises ceramic and zirconia composite material.
4. The ceramic atomizer of claim 1, wherein the atomizing rod (6) comprises an air passage and comprises ceramic and zirconia composite material.
5. The ceramic atomizer of claim 1, wherein the atomizing rod (6) comprises two e-liquid inlets which are disposed in a line along an extension direction of the atomizing rod.
6. The ceramic atomizer of claim 1, wherein the ceramic core (10) is in the shape of a runway and comprises two through holes, and heating wires are uniformly distributed in the through holes.
7. The ceramic atomizer of claim 1, further comprising a glass tube (5) for storage of e-liquid; wherein the atomizing rod (6) is disposed in the glass tube; the

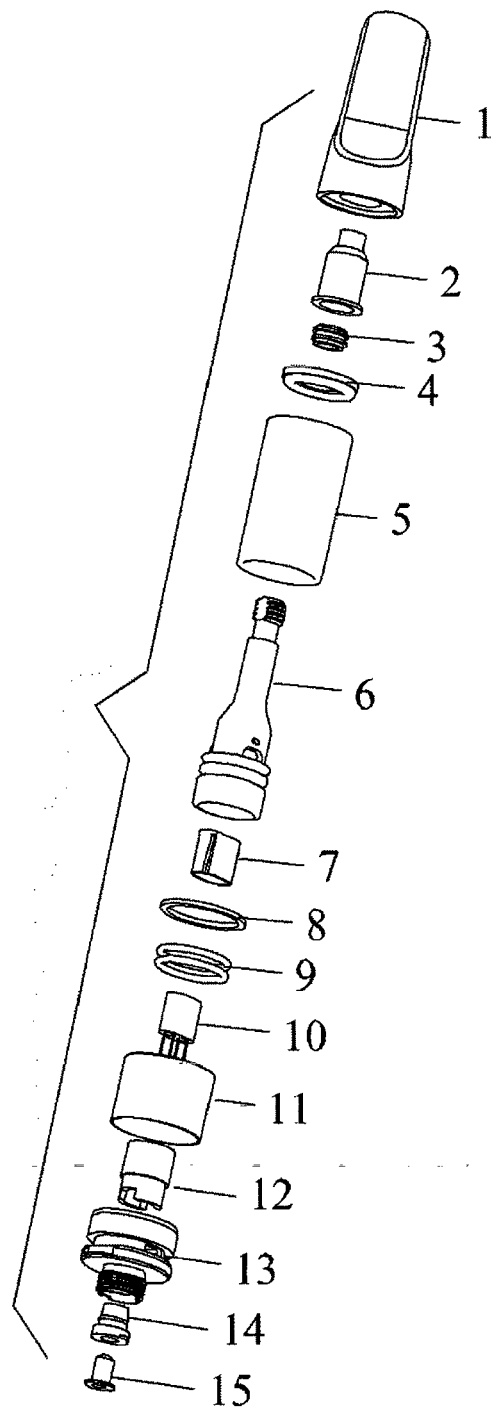


FIG. 1

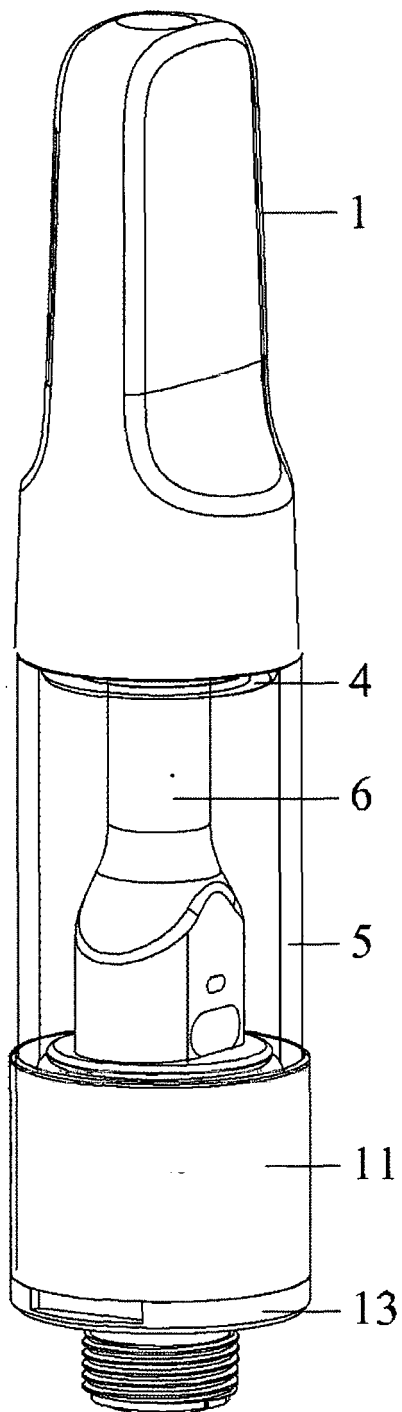


FIG. 2

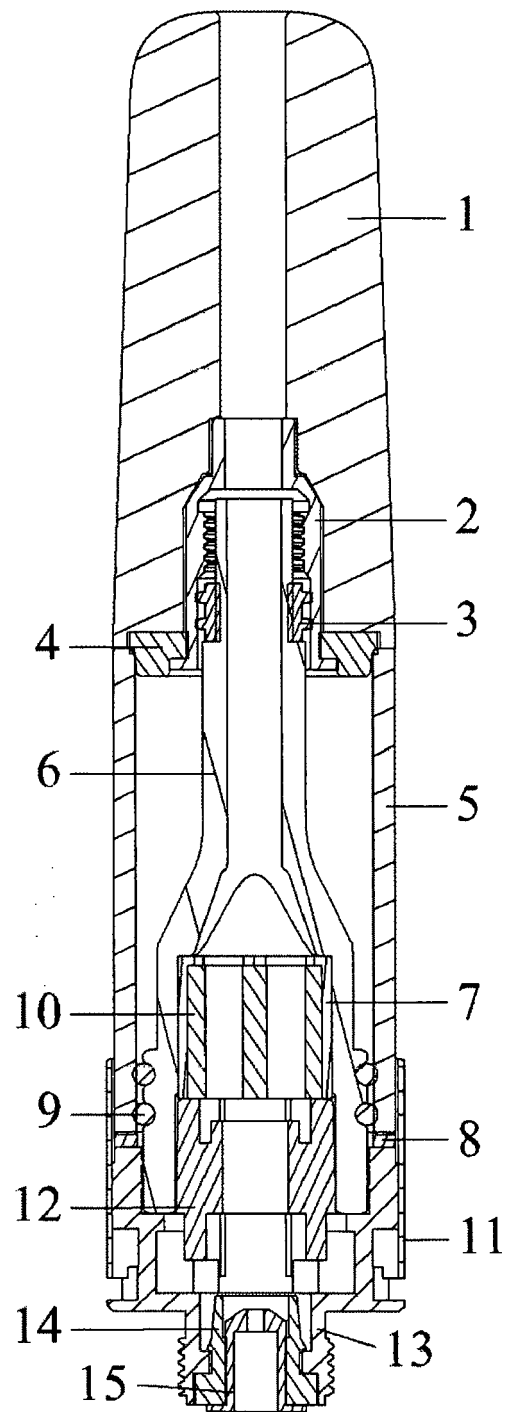


FIG. 3



EUROPEAN SEARCH REPORT

Application Number

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