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- (54) Benævnelse: **ELEKTRONISK CIGARET**
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EP-A1- 3 117 725
EP-A1- 3 141 136
CN-U- 204 104 826
US-A1- 2017 354 182

DESCRIPTION

[0001] This disclosure relates to an electronic cigarette.

[0002] Electronic cigarettes atomize nicotine-containing e-liquid, see e.g. CN 204104826.

[0003] Conventionally, the recharging of the e-liquid is efficient, and the e-liquid tends to leak in the process. In addition, no child lock is disposed in the atomization assembly, so that the atomization assembly is accidentally opened by children, leading to the leakage of the e-liquid.

[0004] The disclosure provides an electronic cigarette that can be charged when in use.

[0005] Provided is an electronic cigarette, comprising a mouthpiece assembly, an atomization assembly, and a base assembly.

[0006] The mouthpiece assembly comprises a mouthpiece, a decorative cover, a movable cover, a fixed base adapted to fix the mouthpiece, a seal ring adapted to seal the fixed base, a first seal ring and a second seal ring adapted to seal the mouthpiece, and a sliding block.

[0007] The atomization assembly comprises a positioning pin, a limit spring, an upper holder, a gasket, a third seal ring adapted to seal the upper holder, a glass tube, an upper seal ring adapted to seal the glass tube, a lower seal ring adapted to seal the glass tube, a fourth seal ring adapted to seal the lower holder, a lower holder, a screw, a connecting thread, a spring, a first cylinder, a fifth seal ring adapted to seal the first cylinder, a second cylinder, and an atomizing core. The lower holder, the screw, and the upper holder constitute a child lock. The lower holder is connected to the upper holder via the screw. Thus, even if the base assembly is dismantled, the atomization assembly will not be dismantled, and only the screw is loosened, can the atomization assembly is opened, thus preventing the leakage of the e-liquid.

[0008] The base assembly comprises an airflow regulating ring, a fixing ring adapted to fix the airflow regulating ring, a sixth seal ring adapted to seal the fixing ring, a joint, an insulating ring, a base, and a seventh seal ring adapted to seal the base.

[0009] The seal ring is sheathed on the fixed base and the fixed base is disposed in the movable cover; the decorative cover is disposed in the movable cover and fixed on the fixed base; the first seal ring and the second seal ring are sheathed on the mouthpiece; the mouthpiece is in threaded connection to the decorative cover; the sliding block is embedded in the fixed base and fixed in the movable cover.

[0010] The gasket is attached to the upper holder; the third seal ring and the upper seal ring are respectively embedded in an inner ring and an outer groove of the upper holder; the second cylinder is sheathed on the connecting thread; the spring is disposed in the second cylinder; the fifth seal ring is disposed in the first cylinder; the first cylinder and the atomizing

core are embedded in the lower holder; the lower seal ring is embedded in a groove of the lower holder; the fourth seal ring is sheathed on the lower seal ring; the glass tube is fixed on the lower holder; the lower holder is in threaded connection to the upper holder; the limit spring is sheathed on the positioning pin, and the positioning pin is fixed on the upper holder.

[0011] The connecting thread, the spring, the first cylinder, the fifth seal ring and the second cylinder constitute an elastic e-liquid sealer. When the atomizing core is mounted on the lower holder and is pressed downward, the first cylinder also moves downwards, the spring deforms, and the e-liquid inlet of the lower holder is opened, the e-liquid enters the atomizing core. When the atomizing core is pulled out, the spring resets, the first cylinder returns to the original position, the e-liquid inlet is closed and separated from the atomizing core, thus avoiding the leakage of the e-liquid in the process of replacing the atomizing core.

[0012] The mouthpiece assembly is disposed on the atomization assembly. The sliding block is embedded in the upper holder via the positioning pin. In use, the movable cover is pulled up and pushed to one side, and the sliding block shifts to a fixed direction, so that the e-liquid inlet on the gasket under the movable cover is exposed for e-liquid charging.

[0013] The joint is disposed in the insulating ring; the insulating ring is disposed in the base; the sixth seal ring is sheathed on the fixing ring, and the fixing ring is sheathed on the base; the seventh seal ring is sheathed on the base; and the airflow regulating ring is in threaded connection to the base.

[0014] The base is in threaded connection to the lower holder of the atomization assembly.

FIG. 1 is an exploded view of an electronic cigarette as described in the disclosure; and

FIG. 2 is an exploded view of a mouthpiece assembly of an electronic cigarette as described in the disclosure;

FIG. 3 is an exploded view of an atomization assembly of an electronic cigarette as described in the disclosure;

FIG. 4 is an exploded view of a base assembly of an electronic cigarette as described in the disclosure;

FIG. 5 is a stereogram of an electronic cigarette as described in the disclosure; and

FIG. 6 is a sectional view of an electronic cigarette as described in the disclosure.

[0015] To further illustrate, embodiments detailing an electronic cigarette are described below. It should be noted that the following embodiments are intended to describe and not to limit the disclosure.

[0016] As shown in FIGS. 1-6, provided is an electronic cigarette, comprising: a mouthpiece assembly A; an atomization assembly B, and a base assembly C. The mouthpiece assembly A is disposed on the atomization assembly B. The atomization core is disposed in the atomization assembly. The base assembly is connected to the atomization assembly.

[0017] The mouthpiece assembly A comprises a mouthpiece 1, a decorative cover 2, a movable cover 3, a fixed base 4 adapted to fix the mouthpiece, a seal ring 5 adapted to seal the fixed base, a first seal ring 6 and a second seal ring 7 adapted to seal the mouthpiece, and a sliding block 8. The seal ring 5 is sheathed on the fixed base 4 and the fixed base 4 is disposed in the movable cover 3; the decorative cover 2 is disposed in the movable cover 3 and fixed on the fixed base 4; the first seal ring 6 and the second seal ring 7 are sheathed on the mouthpiece 1; the mouthpiece 1 is in threaded connection to the decorative cover 2; the sliding block 8 is embedded in the fixed base 4 and fixed in the movable cover 3.

[0018] The atomization assembly B comprises a positioning pin 9, a limit spring 10, an upper holder 11, a gasket 12, a third seal ring 13 adapted to seal the upper holder, a glass tube 15, an upper seal ring 14 adapted to seal the glass tube, a lower seal ring 16 adapted to seal the glass tube, a fourth seal ring 17 adapted to seal the lower holder, a lower holder 18, a screw 32, a connecting thread 19, a spring 20, a first cylinder 21, a fifth seal ring 22 adapted to seal the first cylinder 21, a second cylinder 23, and an atomizing core 24. The gasket 12 is attached to the upper holder 11; the third seal ring 13 and the upper seal ring 14 are respectively embedded in an inner ring and an outer groove of the upper holder 11; the second cylinder 23 is sheathed on the connecting thread 19; the spring 20 is disposed in the second cylinder 23; the fifth seal ring 22 is disposed in the first cylinder 21; the first cylinder 21 and the atomizing core 24 are embedded in the lower holder 18. The connecting thread 19, the spring 20, the first cylinder 21, the fifth seal ring 22 and the second cylinder 23 constitute an elastic e-liquid sealer. When the atomizing core 24 is mounted on the lower holder 18 and is pressed downward, the first cylinder 21 also moves downwards, the spring 20 deforms, and the e-liquid inlet of the lower holder 18 is opened, the e-liquid enters the atomizing core 24. When the atomizing core 24 is pulled out, the spring 20 resets, the first cylinder 21 returns to the original position, the e-liquid inlet is closed and separated from the atomizing core 24, thus avoiding the leakage of the e-liquid in the process of replacing the atomizing core. The lower seal ring 16 is embedded in a groove of the lower holder 18; the fourth seal ring 17 is sheathed on the lower seal ring 16; the glass tube 15 is fixed on the lower holder 18; the lower holder 18 is in threaded connection to the upper holder 11; the limit spring 10 is sheathed on the positioning pin 9, and the positioning pin 9 is fixed on the upper holder 11. The lower holder 18, the screw 32, and the upper holder 11 constitute a child lock. The lower holder 18 is connected to the upper holder 11 via the screw 32. Thus, even if the base assembly is dismantled, the atomization assembly will not be dismantled, and only the screw 32 is loosened, can the atomization assembly be opened, thus preventing the leakage of the e-liquid. The mouthpiece assembly is disposed on the atomization assembly. The sliding block 8 is embedded in the upper holder 11 via the positioning pin. In use, the movable cover 3 is pulled up and pushed to one side, and the sliding block 8 shifts to a fixed direction, so that the e-liquid inlet on the gasket 12 under the movable cover 3 is exposed for e-liquid charging.

[0019] The base assembly comprises an airflow regulating ring 27, a fixing ring 25 adapted to fix the airflow regulating ring, a sixth seal ring 26 adapted to seal the fixing ring 25, a joint 28, an insulating ring 29, a base 31, and a seventh seal ring 30 adapted to seal the base. The joint 28 is disposed in the insulating ring 29; the insulating ring 29 is disposed in the base 31; the sixth seal ring 26 is sheathed on the fixing ring 25, and the fixing ring 25 is sheathed on the base 31; the seventh seal ring 30 is sheathed on the base 31; and the airflow regulating ring 27 is in threaded connection to the base. The base 31 is in threaded connection to the lower holder 18 of the atomization assembly.

REFERENCES CITED IN THE DESCRIPTION

Cited references

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Patent documents cited in the description

- CN204104826 [0002]

PATENTKRAV

1. Elektronisk cigaret, der omfatter:

en mundstykkесamling, idet mundstykkесamlingen omfatter et mundstykke (1), en pyntetildækning (2), en bevægelig tildækning (3), en fastgjort basis (4), der er tilpasset til at fastgøre mundstykket, en tætningsring (5), der er tilpasset til at tætnе den fastgjorte basis, en første tætningsring (6) og en anden tætningsring (7), der er tilpasset til at tætnе mundstykket, og en glideblok (8);

en forstøvningssamling, idet forstøvningssamlingen omfatter en positioneringstap (9), en begrænsningsfjeder (10), en øvre holder (11), en pakning (12), en tredje tætningsring (13), der er tilpasset til at tætnе den øvre holder, et glasrør (15), en øvre tætningsring (14), der er tilpasset til at tætnе glasrøret, en nedre tætningsring (16), der er tilpasset til at tætnе glasrøret, en fjerde tætningsring (17), der er tilpasset til at tætnе den nedre holder, en nedre holder (18), en skrue (32), et forbindelsesgevind (19), en fjeder (20), en første cylinder (21), en femte tætningsring (22), der er tilpasset til at tætnе den første cylinder (21), en anden cylinder (23) og en forstøvningskerne (24);

en basissamling, idet basissamlingen omfatter en luftstrømsregulerende ring (27), en fastgørelsesring (25), der er tilpasset til at fastgøre den luftstrømsregulerende ring, en sjette tætningsring (26), der er tilpasset til at tætnе fastgørelsesringen (25), en forbindelsesdel (28), en isoleringsring (29), en basis (31) og en syvende tætningsring (30), der er tilpasset til at tætnе basen;

hvor:

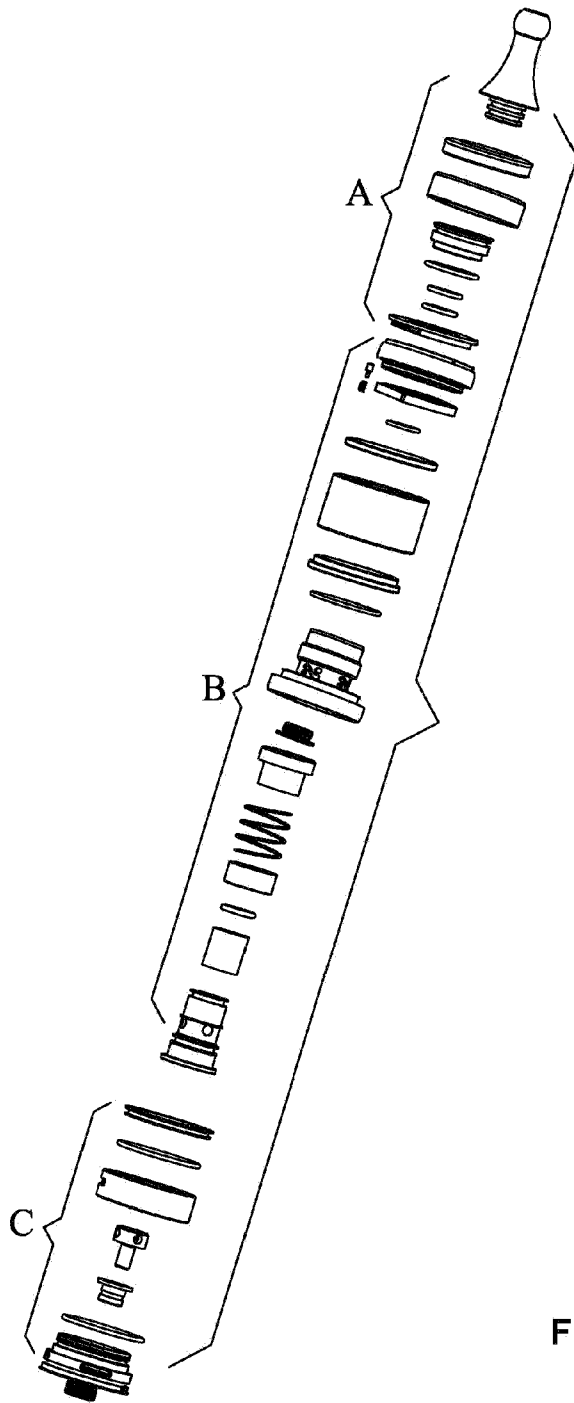
tætningsringen (5) er overtrukket på den fastgjorte basis (4), og den fastgjorte basis (4) er anbragt i den bevægelige tildækning (3); pyntetildækningen (2) er anbragt i den bevægelige tildækning (3) og fastgjort på den fastgjorte basis (4); den første tætningsring (6) og den anden tætningsring (7) er overtrukket på mundstykket (1); mundstykket (1) er i gevindforbindelse med pyntetildækningen

(2); glideblokken (8) er indlejret i den fastgjorte basis (4) og fastgjort i den bevægelige tildækning (3);

pakningen (12) er fastgjort til den øvre holder (11); den tredje tætningsring (13) og den øvre tætningsring (14) er indlejret i henholdsvis en indre ring og en ydre rille i den øvre holder (11); den anden cylinder 23 er overtrukket på forbindelsesgevindet (19); fjederen (20) er anbragt i den anden cylinder (23); den femte tætningsring (22) er anbragt i den første cylinder (21); den første cylinder (21) og forstøvningskernen (24) er indlejret i den nedre holder (18); den nedre tætningsring (16) er indlejret i en rille i den nedre holder (18); den fjerde tætningsring (17) er overtrukket på den nedre tætningsring (16); glasrøret (15) er fastgjort på den nedre holder (18); den nedre holder (18) er i gevindforbindelse med den øvre holder (11); begrænsningsfjederen (10) er overtrukket på positioneringstappen (9), og positioneringstappen (9) er fastgjort på den øvre holder (11); den nedre holder (18), skruen (32) og den øvre holder (11) udgør en børnesikring; den nedre holder (18) er via skruen (32) forbundet med den øvre holder (11); og

forbindelsesdelen (28) er anbragt i isoleringsringen (29); isoleringsringen (29) er anbragt i basen (31); den sjette tætningsring (26) er overtrukket på fastgørelsesringen (25), og fastgørelsesringen (25) er overtrukket på basen (31); den syvende tætningsring (30) er overtrukket på basen (31); og den luftstrømsregulerende ring (27) er i gevindforbindelse med basen.

DRAWINGS



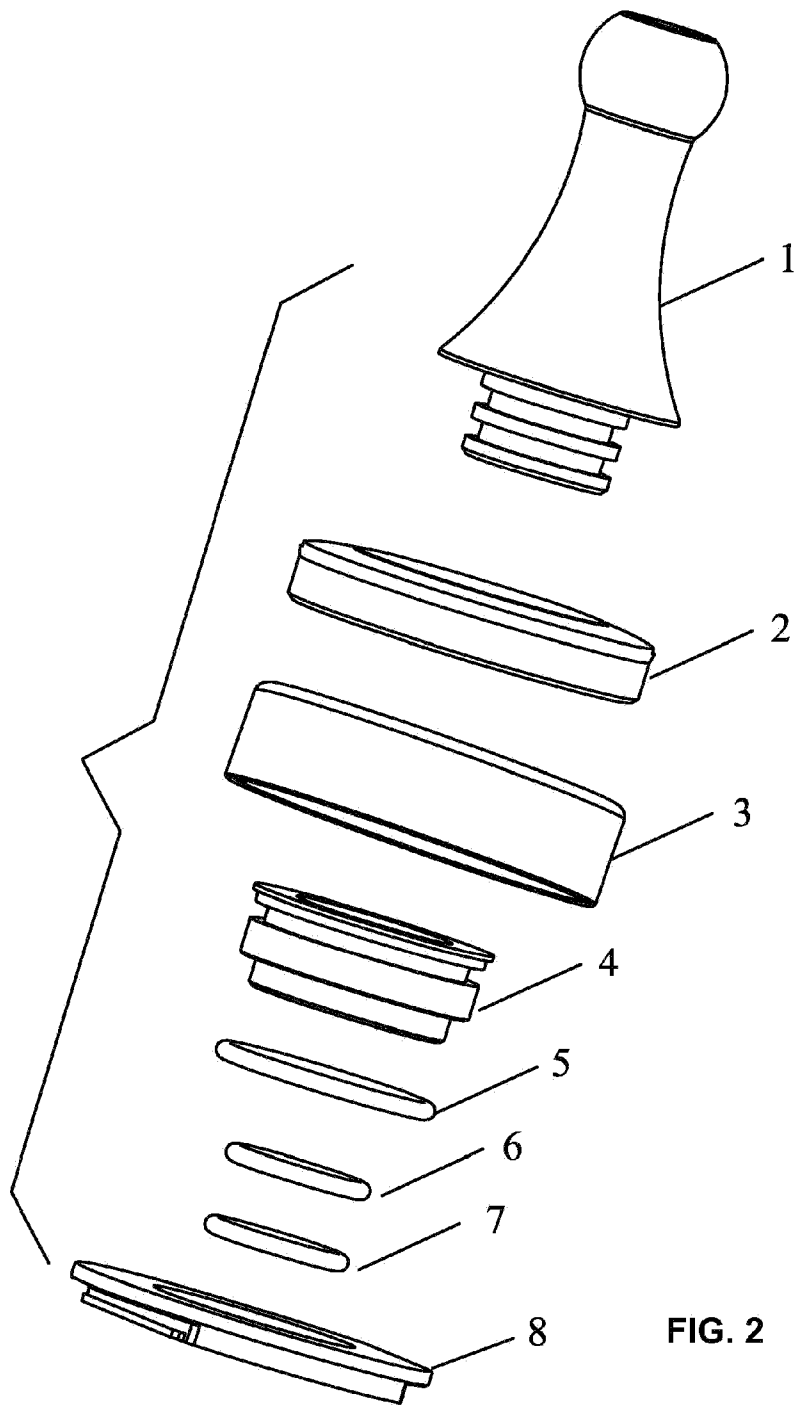


FIG. 2

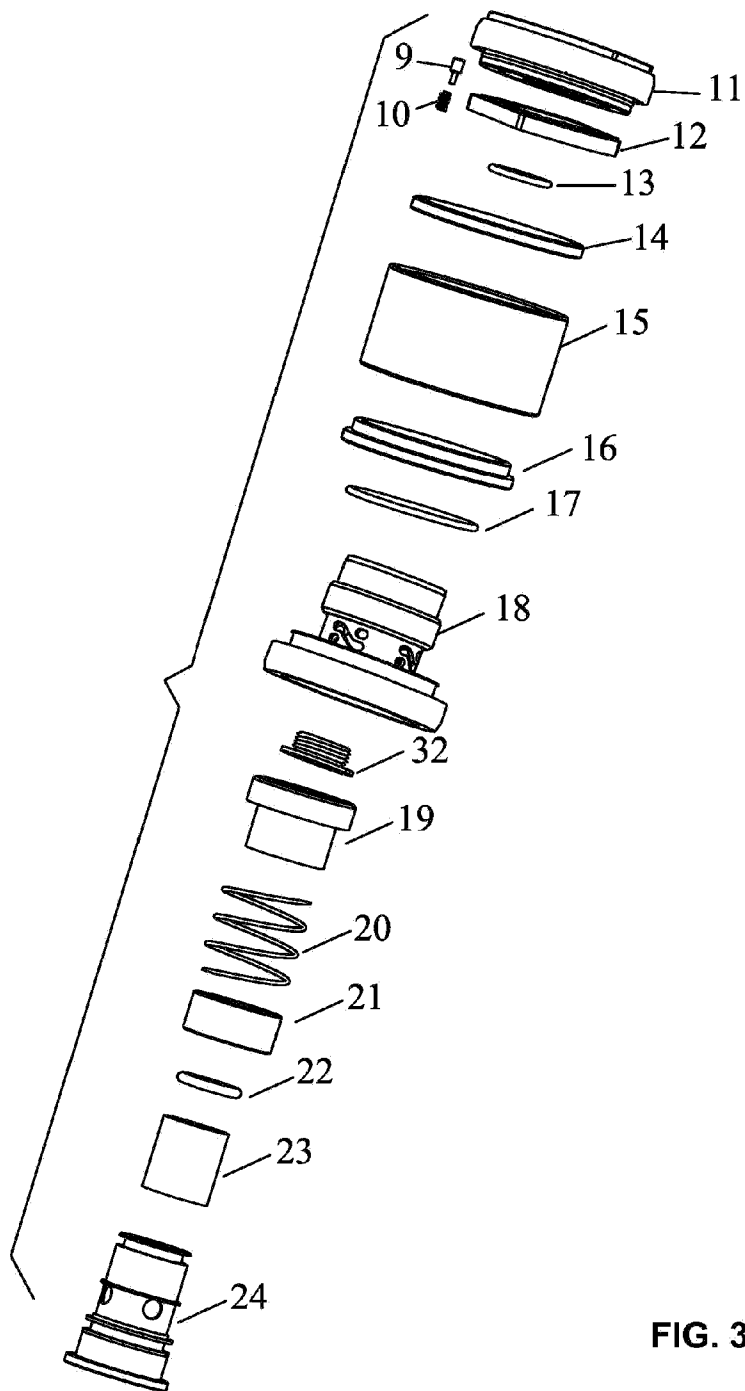


FIG. 3

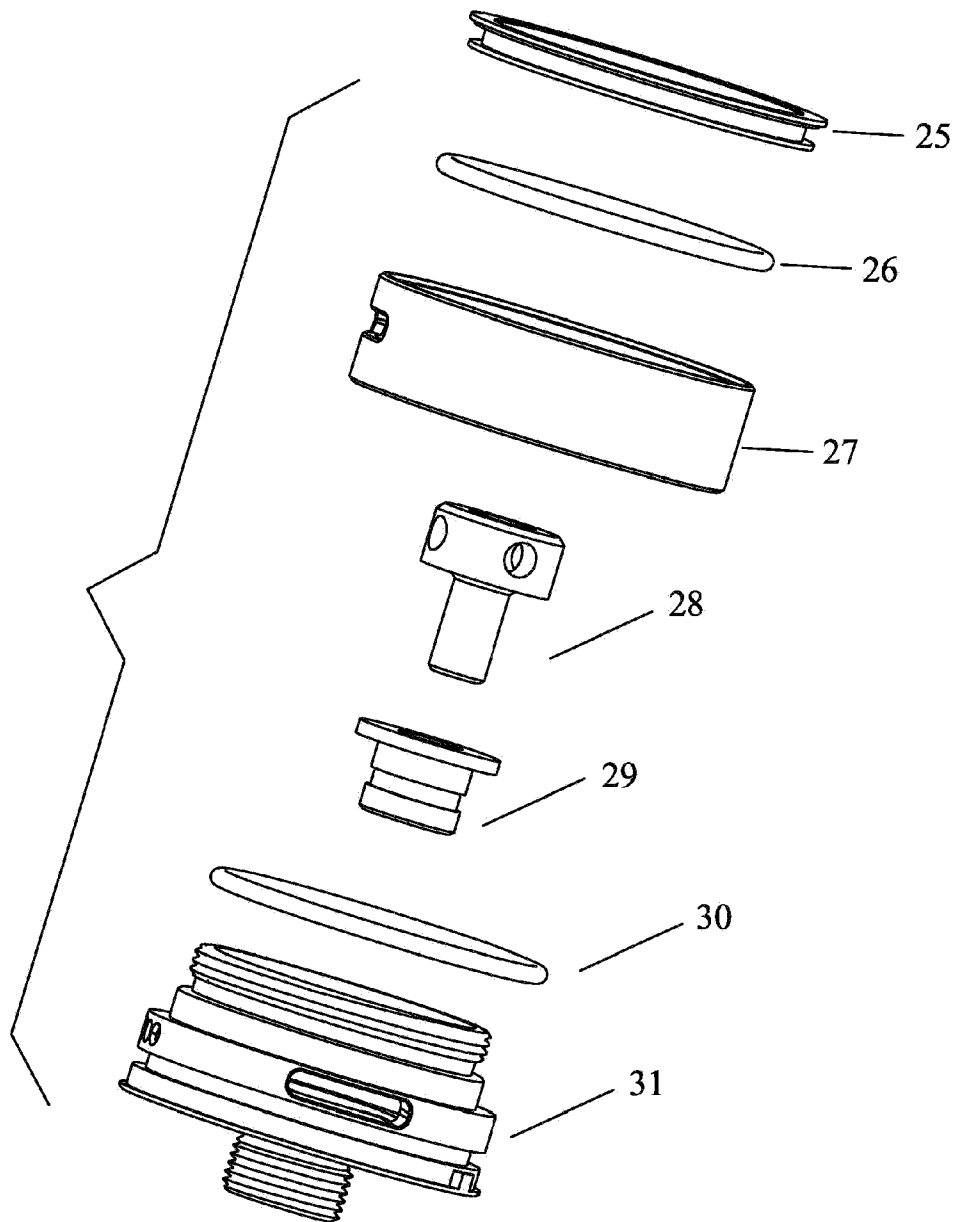


FIG. 4

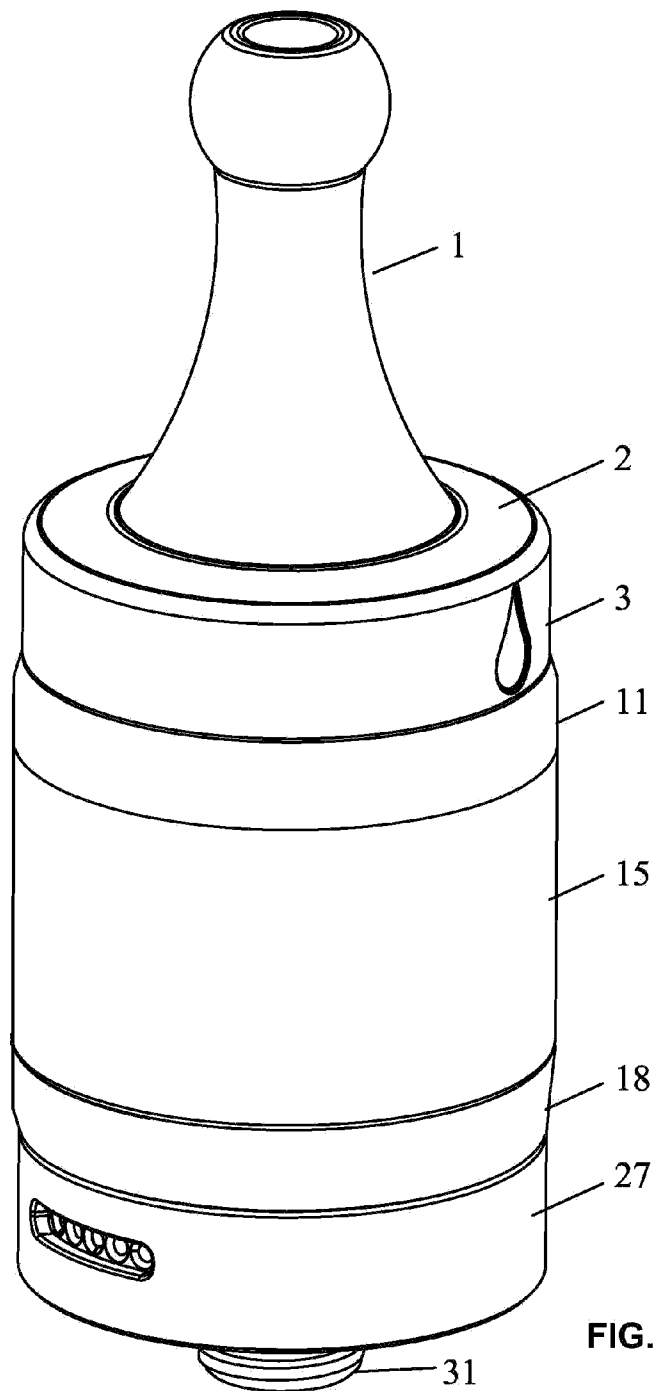


FIG. 5

