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(54) **ATOMIZATION DEVICE AND METHOD FOR ASSEMBLING ATOMIZATION DEVICE**

(57) The present disclosure provides an atomization device (100) and a method for assembly an atomization device (100). The atomization device (100) includes: a body portion (10), a cover (20), and a protective holder (30). The body portion (10) includes a shell (11) and a heating assembly (14) connected to the shell in a detach-

able manner to heat a tobacco product (50) and volatilize an ingredient. The protective holder is connected with the shell along a first direction to sleeve an outer side of the heating assembly. The cover slidably covers an outer side of an end of the shell connected with the heating assembly along the first direction.

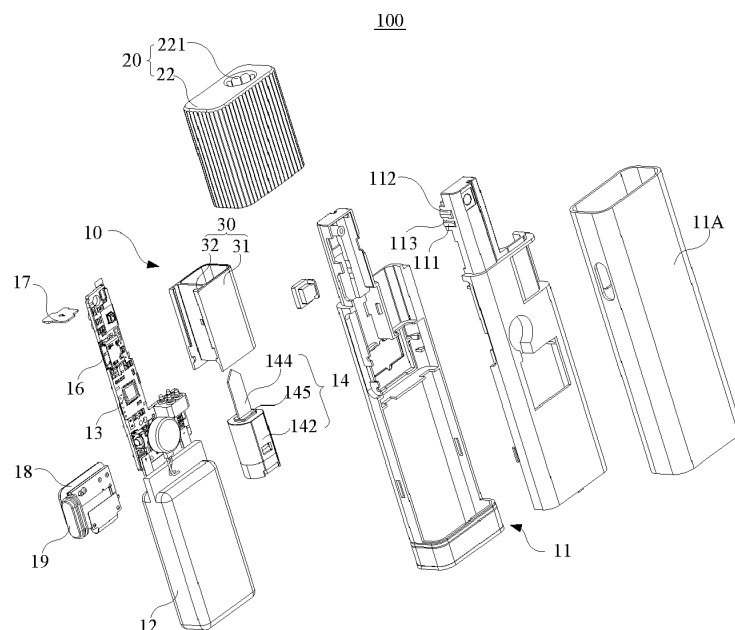


FIG. 2

Description

TECHNICAL FIELD

[0001] The present disclosure relates to the field of electronic atomization devices, and in particular to an atomization device and a method for assembling an atomization device.

BACKGROUND

[0002] With development of technologies and people's pursuit of healthy life, an atomization device for low-temperature flue curing is available in the market to bake smoke-producing substances, such as tobacco, to generate smoke. The atomization device available in the related art may have a heating assembly, fixedly arranged inside the atomization device. After being used for a long period of time, a large amount of solid oxides may be formed on a surface of the heating assembly, reducing a heating efficiency of the heating assembly and damaging the heating assembly. When a damaged heating assembly is required to be detached for maintenance, a large number of components need to be detached, and a procedure for detaching is complicated, wasting time.

SUMMARY OF THE DISCLOSURE

[0003] An atomization device and a method for assembling an atomization device may be provided to solve the above-mentioned technical problems.

[0004] According to an aspect of the present disclosure, an atomization device is provided and includes: a body portion, a cover, and a protective holder. The body portion may include a shell and a heating assembly. The heating assembly may be connected to the shell in a detachable manner and is arranged to heat a tobacco product, such that an ingredient of the tobacco product may be volatilized. The protective holder is slidably connected to the shell along a first direction and is arranged to sleeve the heating assembly to cover an outside of the heating assembly. The cover arranged to slidably sleeve an outer side of an end of the shell connected with the heating assembly.

[0005] In some embodiments, the protective holder includes a holder body and a guide plate connected with the holder body, the holder body is arranged to surround the heating assembly, and the guide plate is slidably connected with the shell. The shell defines a guide groove along the first direction, and the guide plate is engaged with the guide groove to allow the holder body to slide relative to the shell.

[0006] In some embodiments, two guide grooves are defined on two opposing sides of the shell, and two faces of the holder body contacting the shell are arranged to abut against the two opposing sides of the shell. Two guide plates are arranged, each of the two guide plates comprises a guide portion and a connection portion. The

connection portion is parallel with the two opposing sides of the shell. The guide portion is arranged to extend from a side of the connection portion away from the holder body, wherein two guide portions of the two guide plates are arranged to extend towards each other.

[0007] In some embodiments, a first engaging portion is arranged to protrude from a side wall of the guide groove; a second engaging portion is arranged to extend from the side of the connection portion away from the holder body, such that two second engaging portions are arranged on two connection portions and extend towards each other; the second engaging portion and the guide portion are spaced apart from each other to define a first engaging recess between the second engaging portion and the guide portion; and the first engaging portion is engaged into the first engaging recess to connect the protective holder with the shell.

[0008] In some embodiments, a side of the holder body close to the heating assembly is arranged with a third engaging portion, the shell defines a second engaging recess in correspondence with the third engaging portion, and the third engaging portion is engaged with the second engaging recess, such that the protective holder is connected with the shell.

[0009] In some embodiments, the cover includes a case defining a chamber and a channel wall defining a channel, the channel wall is received in the chamber, the case defines a smoke outlet, the channel wall is connected with a periphery of the smoke outlet, and a tobacco product is received in the channel. The heating assembly includes a heating body and a heating member, the heating body is received in the chamber of the case, and the heating member is exposed to an outside of the case. When the cover is engaged with the body portion, the channel wall is covered by the protective holder, and the heating member is inserted into the channel.

[0010] In some embodiments, the case includes an outer case and an inner case; the smoke outlet is defined in the outer case; an end wall of the inner case defines a relief hole corresponding to the channel wall; an end of the channel wall connected to the periphery of the smoke outlet is arranged with a first hook, protruding from an outer surface of the channel wall and extending away from the channel; the channel wall is inserted into the relief hole, and the first hook is arranged between the end wall of the inner case and an end wall of the outer case, such that the channel wall is connected to the case.

[0011] In some embodiments, the end of the channel wall connected to the periphery of the smoke outlet is further arranged with a second hook, protruding from the outer surface of the channel wall and extending away from the channel; the second hook and the first hook are spaced apart from each other; and the end wall of the inner case is arranged between the first hook and the second hook.

[0012] In some embodiments, the outer surface of the end of the channel wall connected to the periphery of the smoke outlet and a side wall of the relief hole is arranged

with a positioning block and defines a positioning recess, respectively, and the positioning block is able to be engaged with the positioning recess.

[0013] In some embodiments, a side wall of the smoke outlet is arranged with a protrusion to abut against the tobacco product, such that a gap is defined between a periphery of the tobacco product and the side wall of the smoke outlet; the channel wall defines a vent at the end connected to the periphery of the smoke outlet, such that air is able to flow from the smoke outlet through the vent to reach an outer side of the channel wall; and the vent is defined by the outer surface of the end of the channel wall connected to the periphery of the smoke outlet recessing inwardly.

[0014] In some embodiments, a wall of the protective holder away from the heating body is arranged to abut against the case.

[0015] In some embodiments, an abutting portion is arranged to protrude from the outer surface of the channel wall and abut against an inner wall of the protective holder.

[0016] In some embodiments, the heating assembly further includes a clamping portion, the clamping portion is arranged to protrude from the heating member to fix the heating member; and the atomization device further includes a bottom board, arranged on a side of the protective holder close to the heating body, and the bottom board defines a receiving recess to receive the clamping portion.

[0017] According to another aspect of the present disclosure, a method for assembling the atomization device may be provided. The atomization device may include a body portion, a cover, and a protective holder. The body portion may include a shell and a heating assembly. The method for assembling the atomization device may include: assembling the heating assembly with the shell along a first direction; assembling the protective holder with the shell along the first direction to allow the heating assembly to be surrounded by the protective holder; and assembling the cover to the shell along the first direction to cover an outer side of an end of the shell connected with the protective holder.

[0018] In some embodiments, the shell defines a guide groove along a first direction, and a first engaging portion is arranged to protrude from a side wall of the guide groove; the protective holder is arranged with a guide plate, and the guide plate defines a first engaging recess. The assembling the protective holder with the shell along the first direction includes: aligning the guide plate with the guide groove; moving the protective holder from a side of the shell away from the heating assembly towards another side of the shell close to the heating assembly; and engaging the guide plate with the guide groove in a slidable manner by engaging the first engaging portion into the first engaging recess.

BRIEF DESCRIPTION OF THE DRAWINGS

[0019] To further illustrate technical solutions of embodiments of the present disclosure, drawings for the embodiments will be briefly introduced herein. Obviously, following drawings shows only some of the embodiments. To anyone with ordinary skills in the related art, other drawings may be obtained based on the following drawings without any creative work.

FIG. 1 is a perspective view of an atomization device according to an embodiment of the present disclosure.

FIG. 2 is an exploded perspective view of the atomization device shown in FIG. 1.

FIG. 3 is a cross sectional view of the atomization device shown in FIG. 1 in a first state.

FIG. 4 is an enlarged schematic view of a portion A shown in FIG. 3.

FIG. 5 is an exploded perspective view of a protective holder and a shell of the atomization device of FIG. 1 observed from an angle.

FIG. 6 is an exploded perspective view of the protective holder and the shell of FIG. 5 observed from another angle.

FIG. 7 is a cross sectional schematic view of a portion of an atomization device in the first state according to another embodiment of the present disclosure.

FIG. 8 is a cross sectional schematic view of a portion of the atomization device of FIG. 1 in a second state.

FIG. 9 is an exploded perspective view of a cover of the atomization device shown in FIG. 2.

FIG. 10 is a cross sectional schematic view of the cover of the atomization device shown in FIG. 2.

FIG. 11 is a cross sectional schematic view of a channel wall of the atomization device shown in FIG. 9, taking along a plane of an entering hole.

FIG. 12 is a cross sectional view of a portion of the atomization device shown in FIG. 1 in a third state.

FIG. 13 is a cross sectional view of a portion of the atomization device shown in FIG. 1 in a fourth state.

FIG. 14 is a flow chart illustrating a method for assembling an atomization device according to an embodiment of the present disclosure.

DETAILED DESCRIPTION

[0020] The present disclosure is to be further described clearly and comprehensively by referring to appended figures and embodiments. Obviously, described embodiments herein are only a part of, but not all of, possible embodiments. Based on the described embodiments of the present disclosure, ordinary skilled in the art may obtain other embodiments without contributing creative endeavor, which should be within the scope of the present disclosure.

[0021] As shown in FIGS. 1 to 4, the present disclosure provides an atomization device 100, including a body por-

tion 10, a cover 20, and a protective holder 30. The body portion 10 may include a shell 11, a power assembly 12, and a heating assembly 14. The power assembly 12 may be arranged inside the shell 11 and to supply power to the heating assembly 14. The heating assembly 14 may be connected to the shell 11 in a detachable manner and may heat a tobacco product 50, such that an ingredient of the tobacco product 50 may be heated and volatilized. The protective holder 30 may be slidably connected to the shell 11 along a first direction and arranged to sleeve an outer side of the heating assembly 14 for protecting the heating assembly. The cover 20 may slidably sleeve an outer side of an end of the shell 11 along the first direction, and the end of the shell 11 is arranged with the heating assembly 14. The first direction may be a length direction of the atomization device 100, and that is, the X direction as shown in FIG. 1.

[0022] By engaging the heating assembly 14 with the shell 11 in a detachable manner, the protective holder 30 may be arranged at the outer side of the heating assembly 14 and slidably connected to the shell 11, and the cover 20 may slidably sleeve the outer side of the end of the shell 11 arranged with the heating assembly 14. In such a way, the heating assembly 14 and the protective holder 30 may be protected, and the cover 20, the protective holder 30, and the heating assembly 14 may be easily detached, such that each component of the atomization device 100 may be easily cleaned. Dust may be prevented from accumulating inside the atomization device 100 after a long-term use to reduced the heating efficiency of the atomization device 100 or damage the atomization device 100.

[0023] To be specific, as shown in FIG. 5, the shell 11 may define a guide groove 114 along the first direction. The protective holder 30 may include a holder body 31 and a guide plate 32 connected to the holder body 31. The holder body 31 may be arranged to surround the heating assembly 14, and the guide plate 32 may be engaged with the guide groove 114, such that the holder body 31 may be slidable relative to the shell 11.

[0024] Two guide grooves 114 may be defined on two opposing sides of the shell 11, and the two opposing sides may abut against two opposing sides of the holder body 31 contacting the shell 11. Two guide plates 32 may be arranged on the two opposing sides of the holder body 31 in correspondence with the two guide grooves 114.

[0025] In the present embodiment, the two guide plates 32 may extend from the two opposing sides of the holder body 31 towards the shell 11 to engage with the guide groove 114. By defining the two guide grooves 114 on the two opposing sides of the shell 11, external forces may be evenly applied to two sides of the protective holder 30, such that the protective holder 30 may be stably connected with the shell 11.

[0026] In the present embodiment, as shown in FIG. 5, each guide plate 32 may be in an L shape, including a guide portion 322 and a connection portion 324. The connection portion 324 may be parallel with the two op-

posing sides of the shell 11. The guide portion 322 may protrude from a side of the connection portion 324 away from the holder body 31, and two guide portions 322 of the two guide plates 32 may extend towards each other.

[0027] A face contact between the connection portion 324 and the shell 11 may increase a contact area between the connection portion 324 of the protective holder 30 and the shell 11 to increase a friction between the protective holder 30 and the shell 11, such that the protective holder 30 may be stably connected to the shell 11, and when the cover 20 is moved, the protective holder 30 may be prevented from being moved together with the cover 20.

[0028] In an embodiment, as shown in FIG. 5, a first engaging portion 115 may be arranged to protrude from a side wall of the guide groove 114. A second engaging portion 326 may be arranged on the side of the connection portion 324 away from the holder body 31, extending towards the shell 11, that is, two engaging portions 326 may be arranged on two connection portions, extending towards each other. The second engaging portion 326 may be spaced apart from the guide portion 322, such that a first engaging recess 328 may be defined between the second engaging portion 326 and the guide portion 322, the first engaging portion 115 may be engaged into the first engaging recess 328 to connect the protective holder 30 with the shell 11.

[0029] By arranging the first engaging portion 115 engaged with the first engaging recess 328, an engaging force between the protective holder 30 and the shell 11 may be increased. When the cover 20 is moved, the protective holder 30 may be protected from being moved together with the cover 20.

[0030] In an embodiment, as shown in FIG. 6 and FIG. 7, a third engaging portion 33 may be arranged on a side of the protective holder 30 close to the heating assembly 14, and a second engaging recess 116 may be defined in the shell 11. The third engaging portion 33 may be engaged into the second engaging recess 116 to ensure a stable connection between the protective holder 30 and the shell 11.

[0031] In the present embodiment, the third engaging portion 33 may be arranged on a side of the protective holder 30 away from the second engaging portion 326, that is, the third engaging portion 33 and the second engaging portion 326 may be arranged on two opposing sides of the protective holder 30 to ensure an equal force applied to the connections between the protective holder 30 and the shell 11 at the two opposing sides, such that the protective holder 30 may be stably connected to the shell 11.

[0032] The cover 20 may be slidably arranged on an outer side of an end of the shell 11 arranged with the heating assembly 14 along the first direction, that is, the cover 20 may be arranged on the outer side of the shell 11 connected with the protective holder 30.

[0033] To be specific, in the present embodiment, as shown in FIG. 8, the cover 20 may include a case 22

defining a chamber and a channel wall 23 defining a channel. The case 22 may define a smoke outlet 221, the channel wall is arranged within the chamber of the case 22 and connected with a periphery of the smoke outlet 221. The case 22 may be arranged to connect with the body portion 10, and the tobacco product 50 may be received in the channel.

[0034] As shown in FIG. 2 and FIG. 3, the power assembly 12 may include a battery 121 and a circuit board 13. The circuit board 13 may be arranged to electrically connect the heating assembly 14 with the battery 121, and power may be supplied to the heating assembly 14, such that the heating assembly 14 may heat the tobacco product 50.

[0035] The battery 121 may be rechargeable, and the body portion 10 may be arranged with a charging interface 16 for recharging the battery 121. In the present embodiment, the charging interface 16 may be arranged on a side of the shell 11 connected with the protective holder 30, that is, a side connected with the cover 20. When the device does not need to be recharged, the charging interface 16 may be covered by the cover 20, preventing external contaminants from entering the charging interface 16 to damage the atomization device 100.

[0036] Further, as shown in FIG. 8, a positioning structure 40 may be arranged on the body portion 10 and the cover 20. A part of the positioning structure 40 is arranged on the body portion 10, and the rest part of the positioning structure 40 is arranged on the cover 20. When the cover 20 slides relative to the body portion 10, the part of the positioning structure 40 arranged on the body portion 10 may be engaged with the rest part of the positioning structure 40 arranged on the cover 20, such that the body portion 10 and the cover 20 may maintain in a second state. In the second state, the cover 20 may expose the charging interface 16 to recharge the battery 121.

[0037] To be specific, when the cover 20 completely covers the body portion 10 (which is named a first state), the cover 20 may cover the charging interface 16 for protection. When the cover 20 slides relative to the body portion 10, allowing the body portion 10 and the cover 20 to reach and maintain in the second state, the cover 20 may expose the charging interface 16, and the atomization device 100 may be recharged through the charging interface 16.

[0038] The charging interface 16 may be at least one of a cluster communication port, a Universal Serial Bus (USB) interface, a mini-USB interface, and a micro-USB interface. The number of the charging interfaces 16 may be one or more, and will not be limited by the present disclosure.

[0039] In the present disclosure, as shown in FIG. 4, the body portion 10 may be arranged with one charging interface 16, and the charging interface 16 may be a USB interface to allow the atomization device 100 to be commonly used.

[0040] In the present disclosure, as shown in FIG. 3

and FIG. 4, a pin of the charging interface 16 may be welded with the circuit board 13 and electrically connected to a pad arranged on the circuit board 13. The circuit board 13 may be arranged to electrically connect the charging interface 16 with the battery 121, such that the battery 121 may be recharged via the charging interface 16. A plug terminal of the charging interface 16 may be exposed through an opening defined on a side wall of the shell 11. By arranging the charging interface 16 on the side wall of the shell 11, the cover 20 may not need to be completely taken off from the body portion 10 during charging, such that the cover 20 may not be lost.

[0041] In an embodiment, the charging interface 16 may be arranged on a side wall of the body portion 10 and may be close to any one of two ends of the body portion 10 (preferably an end away from the battery 121) to reduce a size of the cover 20, such that a structure of the atomization device 100 may be more compact and a state of the atomization device 100 can be adjusted flexibly.

[0042] In an embodiment, the positioning structure 40 may include a first protrusion 21 arranged on an inner wall of the case 22 and a second protrusion 111 and a third protrusion 112 arranged on an outer wall of the body portion 10. The second protrusion 111 and the third protrusion 112 may be spaced apart from each other to define a positioning recess 113 therebetween.

[0043] Further referring to FIG. 3 and FIG. 4, in the present embodiment, the second protrusion 111 and the third protrusion 112 may be arranged on both the shell 11 and the protective holder 30. To be specific, the protective holder 30 may be fixedly arranged on a side of the shell 11. The second protrusion 111 and the third protrusion 112 may be arranged on a side of the body portion 10 away from the protective holder 30, and the positioning recess 113 is defined in the body portion 10 between the second and the third protrusions. At the same time, the second protrusion 111 and the third protrusion 112 may be arranged on a side of the protective holder 30 away from the body portion 10, and the positioning recess 113 is defined in the protective holder 30 between the second and the third protrusions.

[0044] The first protrusion 21 may be arranged on the inner wall of the case 22 along a circumferential direction. Similarly, the second protrusion and the third protrusion 112 may be arranged on the outer wall of the body portion 10 along a circumferential direction to improve stability of the connection.

[0045] In the present embodiment, as shown in FIG. 2 and FIG. 4, the second protrusion 111 and the third protrusion 112 may be arranged on two opposing side walls of the body portion 10 to optimize arrangement of components inside the atomization device 100.

[0046] A cross section of each of the first protrusion 21, the second protrusion 111, and the third protrusion 112 taken along a direction parallel with the first direction may be trapezoid, triangular, or arced to reduce a resistance during the first protrusion 21 moving towards the

positioning recess 113, allowing an easy sliding.

[0047] To be specific, as shown in FIG. 4, in the present embodiment, the cross section of the first protrusion 21, the second protrusion 111, and the third protrusion 112 taken along the first direction is trapezoid.

[0048] When the cover 20 slides along a direction away from the body portion 10, a trapezoid surface of the first protrusion 21 may contact a trapezoid surface of the second protrusion 111. When external forces are applied to the trapezoid surfaces with a certain inclination angle, the first protrusion 21 may be pushed to slide away from the second protrusion 111, such that a resistance generated when the first protrusion 21 sliding through the second protrusion 111 may be reduced, the first protrusion 21 may be easily received into the positioning recess 113, and the cover 20 and the body portion 10 may maintain in the second state as shown in FIG. 8. The cover 20 may be fixed with the body portion 10, and the charging interface 16 of the body portion 10 may be completely exposed to recharge the battery 121. It may be easily understood that the positioning structure may be arranged reversely, that is, the second protrusion 111 and the third protrusion 112 may be arranged on the inner wall of the cover 20, and the first protrusion 21 may be arranged on the outer wall of the body portion 10.

[0049] In another embodiment, the positioning structure 40 may include a positioning hole and a positioning protrusion defined in the inner wall of the case 22 and the outer wall of the body portion 10. For example, the positioning protrusion may be arranged on the inner wall of the case 22, and the positioning hole may be defined in the outer wall of the body portion 10. When the cover 20 slides away from the body portion 10, and when the positioning protrusion of the case 22 is moved to reach the positioning hole, the positioning protrusion may be received into the positioning hole to maintain the cover 20 and the body portion 10 in the second state. Similarly, the positioning hole may be defined in the inner wall of the case 22, and the positioning protrusion is arranged on the outer wall of the body portion 10. An elastic element may further be arranged to apply an elastic force to the positioning protrusion, such that when the positioning protrusion is in correspondence with the positioning hole, the elastic element may push the positioning protrusion into the positioning hole. During the positioning protrusion departing away from the positioning hole, the positioning protrusion may press the elastic element to move away from the positioning hole. A portion of the positioning protrusion engaged with the positioning hole may be in a shape of a partial sphere. The positioning hole may be a through hole or a recess.

[0050] In the present embodiment, the channel wall 23 may be connected to the case 22 in a detachable manner.

[0051] To be specific, as shown in FIG. 9 and FIG. 10, the case 22 may include an outer case 222 and an inner case 223 arranged inside the outer case 222. The smoke outlet 221 may be defined in the outer case 222. An end wall of the inner case 223 may define a relief hole 224

corresponding to the channel wall 23, and the channel wall 23 may extend through the relief hole 224 to connect to the periphery of the smoke outlet 221.

[0052] An end of the channel wall connected with the smoke outlet 221 may be arranged with a first hook 231, protruding from the channel wall and extending away from the channel. The first hook 231 may extend through the relief hole 224 of the inner case 223 and received between an end wall of the external case 222 and the end wall of the inner case 223, such that the channel wall 23 may be fixed with the case 22 via the first hook 231.

[0053] Further as shown in FIG. 9, the end of the channel wall 23 connected with the periphery of the smoke outlet 221 is further arranged with a second hook 232, protruding from the channel wall and extending away from the channel. The second hook 232 may be spaced apart from the first hook 231, and the end wall of the inner case 223 may be clamped between the first hook 231 and the second hook 232. By arranging the first hook 231 and the second hook 232 at two opposing sides of the end wall of the inner case 223, the channel wall 23 may be prevented from shaking around the first direction, such that the channel wall 23 may be stably connected with the shell 22.

[0054] In an embodiment, a positioning block and a positioning recess, which are able to be engaged with each other, may be arranged on the end of the channel wall 23 connected with the periphery of the smoke outlet 221 and defined in a side wall of the relief hole 224, respectively. The positioning recess may be defined along the first direction. By arranging the positioning block and the positioning recess engaged with each other, the channel wall 23 may be facilitated to move along the positioning recess to allow the first hook 231 of the channel wall 23 to pass through the relief hole 224 of the inner case 223 smoothly to be received between the end wall of the inner case 223 and the end wall of the outer case 222, simplifying an assembling process.

[0055] To be specific, as shown in FIG. 9, in the present embodiment, the positioning block 233 may be arranged on the end of the channel wall 23 connected with the periphery of the smoke outlet, and the side wall of the relief hole 224 may define the positioning recess 225. Two positioning blocks 233 may be diametrically arranged on two opposing sides of the round channel wall 23. Two positioning recesses may be defined in correspondence with the two positioning blocks 223. By arranging the two positioning blocks 223 diametrically on the two opposing sides of the channel wall 23, the channel wall 23 may be applied with external forces evenly while being pushed, allowing an easy assembling process.

[0056] In the present embodiment, an outer side of the channel wall 23 may be in contact with external air. In an embodiment, a gap may be defined between the cover 20 and the body portion 10, the external air may flow through the gap to reach the outer side of the channel wall 23. In the present embodiment, as shown in FIG. 9,

the side wall of the smoke outlet 221 may be arranged with a protrusion 226 to abut against the tobacco product 50, such that a gap may be defined between a periphery of the tobacco product 50 and the side wall of the smoke outlet 221. The end of the channel wall 23 close to the smoke outlet 221 may define a vent 234, and the external air may flow from the smoke outlet 221 through the vent 234 to reach the outer side of the channel wall 23.

[0057] In the present embodiment, as shown in FIG. 9, a face of the protrusion 226 contacting the tobacco product 50 may be made arced to provide an aesthetic appearance for the smoke outlet 221. In other embodiments, the face of the protrusion 226 contacting the tobacco product 50 may be made flat, and will not be limited by the present disclosure.

[0058] By arranging the protrusion 226 on the side wall of the smoke outlet 221, a gap may be defined between the side wall of the smoke outlet 221 and the tobacco product 50 to allow the external air to flow through the vent 234, and a contact area between the atomization device 100 and the tobacco product 50 may be improved to increase a friction between the tobacco product 50 and the atomization device 100, such that the tobacco product 50 may be fixedly arranged along a radial direction and prevented from falling out of the atomization device 100 during heating.

[0059] In the present embodiment, as shown in FIG. 9, the vent 234 may be a recess defined on the end of the channel wall 23 close to the smoke outlet 221, and this is to simplify a manufacturing process.

[0060] In another embodiment, the vent 234 may be a through hole extending through the channel wall 23 along a radial direction. In still another embodiment, the vent 234 may be a recess defined in an end face of the channel wall 23 connected to the shell 11. A wall of the recess may be connected with the end face and an outer surface of the channel wall 23, and the recess may communicate with the smoke outlet 221. In other embodiments, the vent 234 may be defined by other means, and will not be limited by the present disclosure.

[0061] Referring to FIG. 2, the shell 11 may define a receiving hole in correspondence with the heating assembly 14. The heating assembly 14 may include a heating body 142 and a heating member 144. The heating body 142 may be received in the receiving hole and connected with the shell 11 in a detachable manner. The heating member 144 may be exposed out of the shell 11. When the cover 20 is arranged to cover the body portion 10, the channel wall 23 may be arranged inside the protective holder 30, and the heating assembly 144 may be inserted into the channel to heat the tobacco product 50.

[0062] To be specific, as shown in FIG. 11, a bottom wall 239 of the channel wall 23 may define a relief hole 235. Referring to FIG. 7, in the first state, the heating member 144 of the heating assembly 14 may be inserted into the relief hole 235 to heat the tobacco product 50 in the channel.

[0063] In an embodiment, as shown in FIG. 3, the heat-

ing assembly 14 may further include an electrode 146. The electrode 146 may be connected with the circuit board 13 and electrically connected with the battery 121, such that an electric energy of the battery 121 may be transferred to the heating member 144. The heating member 144 may receive the electric energy and heat the tobacco product 50.

[0064] In the first state, as shown in FIG. 3 and FIG. 4, an end of the heating member 144 may be arranged out of the channel and connected to the electrode 146, and the other end of the heating member 144 may extend through the relief hole 235 to be received within the channel. A part of the heating member 144 received within the channel may be inserted into an inside of the tobacco product 50 to heat the tobacco product 50 to generate the smoke.

[0065] In an embodiment, as shown in FIG. 7, a gap may be defined between an outer wall of the heating member 144 and a side wall of the relief hole 235, and the external air may flow through the gap to reach the inside of the channel to drive the smoke to flow to an outside of the atomization device for a user to inhale.

[0066] In an embodiment, the heating member 144 may be cylindrical, and a part of the cylindrical heating member 144 close to the tobacco product 50 may be arranged to be conical. Arranging the heating member 144 to be cylindrical is to increase a contact area between the heating member 144 and the tobacco product 50 to increase the heating efficiency.

[0067] As shown in FIG. 2, in the present embodiment, the heating member may be flat to reduce a friction resistance for the heating member 144 inserted into the tobacco product 50.

[0068] In an embodiment, an end of the heating member 144 close to the cover 20 may be triangular to further reduce the friction resistance for the heating member 144 inserted into the tobacco product 50, facilitating the heating member 144 to be inserted into the tobacco product 50 easily.

[0069] As a majority of the tobacco products 50 in the market are made to be cylindrical, the channel wall 23 of the present embodiment may be provided to define a cylindrical channel to fit with the geometry of the tobacco product 50, as shown in FIG. 11. A shape of the relief hole 235 may be defined to be stripped along a diameter of the bottom wall 239. By defining the relief hole 235 along the diameter, the tobacco product 50 may be symmetrically distributed at two sides of the heating member 144, and may be heated evenly.

[0070] Typically, when the heating member 144 in a form of a sheet heats a cylindrical tobacco product 50, the tobacco product 50 close two sides of the heating member 144 may be heated at first. Therefore, the tobacco product 50 close to a diametrical region of the heating member 144 may be efficiently atomized, and the tobacco product 50 away from the diametrical region of the heating member 144 may be atomized later. The air may flow from the relief hole 235 of the bottom wall 239

of the channel wall 23 to the inside of the channel to drive the generated smoke to flow to the outside of the atomization device. When the tobacco product 50 is heated to a certain extent, the tobacco product 50 close to the heating member 144 may be completely heated, the air flowing from the relief hole 235 may drive the smoke generated from the over-heated tobacco product 50, and the smoke may taste burnt to the user, influencing user experience.

[0071] To atomize the tobacco product located away from the heating member 144 completely, in the present embodiment as shown in FIG. 9, an air entering hole 236 may be defined in a side wall of the channel wall 23. The air entering hole 236 allows the air to flow into the channel and contact the tobacco product located between the air entering hole 236 and the smoke outlet 221, improving the heating efficiency of the tobacco product located therein.

[0072] According to the present embodiment, the relief hole 235 may be defined in the bottom wall 239 of the channel wall 23, and an air entering hole 236 may be defined on the side wall of the channel wall 23. During an early stage of heating the tobacco product 50, as a distance between the tobacco product 50 and the side wall of the channel wall 23 is small, the air entering hole on the side wall may be blocked, the air may flow into the channel through the relief hole 235 on the bottom wall 239, a middle portion of the tobacco product 50 contacts the heating member 144 and may be completely heated and atomized. The atomization of the tobacco product 50 may reduce a size of the tobacco product 50, and the distance between the tobacco product 50 and the side wall may be increased. During a later stage of heating the tobacco product 50, the air may enter the channel through the air entering hole 236 on the side wall of the channel wall 23, and a part of the tobacco product 50 close to the side wall may be completely heated, the middle portion of the tobacco product 50 may be prevented from being over-heated, improving the user experience.

[0073] The air entering hole 236 may be defined in an end of the side wall close to the bottom wall 239 to maximize a distance between the air entering hole 236 and the smoke outlet 221 and maximize a contact area between the air and the tobacco product 50. Therefore, increased amount of tobacco may be efficiently atomized. The tobacco product 50 located between the air entering hole 236 and the bottom wall 239 may contact the air sufficiently, and a waste of the tobacco product may be prevented.

[0074] In an embodiment, a distance between an end of a side wall of the air entering hole 236 closest to the bottom wall 239 and the bottom wall 239 may be defined as a smallest distance between the air entering hole 236 and the bottom wall 239, and the smallest distance may be less than or equal to 5mm. That is, the smallest distance between the air entering hole 236 and the bottom wall 239 is less than or equal to 5mm. For example, the

smallest distance may be 0mm, 0.5mm, 1mm, 2mm, 4mm, 5mm, or the like.

[0075] In the present embodiment, as shown in FIG. 10, the air entering hole 236 may be circular, and the smallest distance between the air entering hole 236 and the bottom wall 239 may be 0, that is, a distance between a center of the air entering hole 236 and the bottom wall 239 is equal to a radius of the air entering hole 236, and that is, the bottom wall 239 touches the air entering hole 236. Therefore, the distance between the air entering hole 236 and the bottom wall 239 reaches a smallest value, avoiding the tobacco product 50 from being wasted.

[0076] Further, as shown in FIG. 11, an axle direction of the air entering hole 236 may be perpendicular to a length direction of the relief hole 235, such that a contact area between the air entering from the air entering hole 236 and the heating assembly 144 may be maximized. By defining the air entering hole 236 to be perpendicular to the relief hole 235, the entered air may diffuse symmetrically from the air entering hole 236 towards a periphery, directions of the air flow are shown in FIG. 11. The tobacco product 50 in the channel 23 may be evenly heated, and an atomization efficiency may be improved.

[0077] In an embodiment, two air entering holes 236 may be defined in the side wall of the channel wall 23, opposite to each other and facing towards two opposing sides of the heating member 144, such that the tobacco located at the two opposing sides of the heating member 144 may be evenly heated.

[0078] In an embodiment, a plurality of air entering holes 236 may be defined to improve an efficiency of air entering. In the present embodiment, as shown in FIG. 11, the plurality of air entering holes 236 may be defined on a same cross section of the channel wall 23, such that the tobacco product 50 may be evenly heated.

[0079] In an embodiment, as a large amount of tobacco is arranged opposing to each other along a length direction of the heating member 144, such that the tobacco product 50 located at two opposing sides of the heating member 144 along the length direction may be atomized completely. In other embodiments, the number and positions of the air entering holes 236 may be determined based on the shape of the channel wall 23 and the shape of the heating member 144, which will not be limited by the present disclosure.

[0080] Further, as shown in FIG. 9, the outer surface of the channel wall 23 may be arranged with an abutting portion 237. A distance between the abutting portion 237 and the bottom wall 239 may be less than the distance between the air entering hole 236 and the bottom wall 239, that is, the abutting portion 237 may be arranged between the air entering hole 236 and the bottom wall 239, or the abutting portion 237 and the bottom wall 239 may be arranged on a same plane.

[0081] In an embodiment, as shown in FIG. 7, the abutting portion 237 may abut against an inner wall of the protective holder 30. When the air entering from the vent

234 flows to reach the abutting portion 237, as the abutting portion 237 contacts the inner wall of the protective holder 30, a direction of the air flow may be changed, and the air may flow through the air entering hole 236 to the inside of the channel. By arranging the abutting portion 237 between the outer surface of the channel wall 23 and the inner wall of the protective holder, an end of the channel wall 23 away from the case 22 may be prevented from shaking inside the cover 20, and the heating member 144 may be prevented from being mis-engaged with the relief hole 235 of the bottom wall 239, which may cause a plug failure.

[0082] In an embodiment, as shown in FIG. 9 and FIG. 11, the abutting portion 237 may define air guiding channel 238 in correspondence with the air entering hole 236. The air guiding channel 238 may be defined at a bottom of the air entering hole 236, and the air reaching the abutting portion 237 may be guided into the air entering hole 236, facilitating the air to enter the channel.

[0083] The abutting portion 237 may be uniformly arranged on the outer surface of the channel wall 23, such that external forces may be evenly applied to the channel wall 23. In the present embodiment, as shown in FIG. 7 and FIG. 9, the abutting portion 237 surrounds the channel wall 23 along a circumferential direction abutting against the inner wall of the protective holder 30, and the abutting portion 237 and the bottom wall 239 of the channel wall 23 may be coplanar.

[0084] The abutting portion 237 arranged along the circumferential direction may allow external forces to be evenly applied to the outer side of the channel wall 23. The abutting portion 237 may abut against the inner wall of the protective holder 30, such that an increased amount of the air entering from the vent 234 may flow through the air entering hole 236. By arranging the abutting portion 237 and the bottom wall 239 coplanar, the distance between the air entering hole 236 and the bottom wall 239 may be reduced, such that a size of the tobacco product 50 contacting the air may be maximized, and the tobacco product 50 may not be wasted.

[0085] In an embodiment, as shown in FIG. 7, when the cover 20 is arranged to cover the body portion 10, a side of the protective holder 30 away from the heating assembly 14 may abut against the case 22. To be specific, when the cover 20 is arranged to cover the body portion 10, two ends of the protective holder 30 may abut against the case 22 and the shell 11, respectively, such that air diffusion may be reduced, and an airtight space may be defined inside the holder body 31. Some air may be reserved in the airtight space, between the vent 234 and the air entering hole 236. The reserved air may be pre-heated by the heat channel wall 23, such that a temperature of the air flowing through the air entering hole 236 may be greater than a temperature of the external air, improving the taste for the user.

[0086] Further, as shown in FIG. 6, the holder body 31 may include a bottom board 34, arranged on a side of the holder body 31 close to the heating assembly 14, and

the bottom board 34 may define a relief recess 342. As shown in FIG. 2 and FIG. 7, the heating assembly 14 may be arranged with a clamping portion 145 protruding from the heating assembly 14 to fix the heating member 144.

[0087] As shown in FIG. 7, when the protective holder 30 masks the heating assembly 14 and connects with the shell 11, the clamping portion 145 is received in the relief recess 342, and the bottom board 34 may abut against the heating body 142. The heating assembly 14 may be fixed on the shell 11 to be prevented from shaking while in use. A reduced number of components for fixing the heating assembly 14 may be needed, reducing complexity of a structure of the atomization device 100 and enabling an easy detaching and assembling process. Further, the clamping portion 145 may seal air channels inside the protective holder 30, such that the smoke may be prevented from being condensed and flow back into the shell 11 to damage the circuit board 13, the battery 121, and other elements inside the shell 11.

[0088] In the present embodiment, the clamping portion 145 may be made of plastics to improve a sealing effect between the clamping portion 145 and a side wall of the relief recess 342.

[0089] Further, a surface of the heating body 142 exposed out of the shell 11 and the bottom board 34 of the protective holder 30 may define a position limiting recess and may be arranged with a position limiting element, respectively, wherein the position limiting element may be engaged with the position limiting recess to achieve an accurate alignment between the protective holder 30 and the heating assembly 14.

[0090] To be specific, in the present embodiment, as shown in FIG. 5, the position limiting recess 147 is defined in the surface of the heating body 142 exposed out of the shell 11, and two position limiting recesses 147 may be symmetrically defined in the heating body 142.

[0091] As shown in FIG. 6, the position limiting element 344 may be arranged on the bottom board 34 in correspondence with the position limiting recess 147. By engaging the position limiting element 344 into the position limiting recess 147, the protective holder 30 may be prevented from displacing, such that the heating assembly 14 may be prevented from shaking inside the shell 11.

[0092] In an embodiment, an area of the relief hole 235 is less than an area of a cross section of the channel defined by the channel wall 23, that is, the area of the relief hole 235 is less than an area of a cross section of the tobacco product 50, such that the tobacco product 50 may be prevented from extending through the relief hole 235 to reach an inside of the body portion 10, therefore, the tobacco product 50 with a high temperature may be prevented from damaging the circuit 13 and other elements inside the body portion 10.

[0093] As shown in FIG. 12, the body portion 10 and the cover 20 may be in a third state. The third state may be a transition state between the first state and the second state, that is, a state during moving the cover

20 from the first state in which the cover 20 completely covers the body portion 10 to the second state in which the cover 20 is fixed with the body portion 10.

[0094] In the third state, as a size of the relief hole 235 is less than a size of the tobacco product 50, when the cover 20 starts moving from the first state, the bottom wall 239 of the channel wall 23 may push the tobacco product 50, such that the tobacco product 50 may be removed together with the cover 20, and at least a part of the heating member 144 may be departed away from the tobacco product 50. Therefore, it may be easier to remove the tobacco product 50 from the channel, and therefore, when the cover 20 and the body portion 10 are in the third state, the tobacco product 50 may be easily replaced.

[0095] Further, the body portion 10 and the cover 20 may be arranged with a first magnetic element and a second magnetic element, respectively. The first and the second magnetic elements may be attracted with each other to maintain the body portion 10 and the cover 20 in the first state.

[0096] To be specific, as shown in FIG. 12, the first magnetic element 24 may be arranged on an inner end face of the cover 20, and the second magnetic element 17 may be arranged on a side of the shell 11 close to the cover 20. The first magnetic element 24 and the second magnetic element 17 may be oppositely disposed.

[0097] When the cover 20 and the body portion 10 is in the third state, after a force for moving the cover 20 is removed (that is, external forces are removed from the cover 20), the second magnetic element 17 may attract the second magnetic element 24, such that the cover 20 may move close to the body portion 10, the cover 20 may be restored to an initial position, and maintain in the first state. As shown in FIG. 4, the cover 20 may cover the charging interface 16 to prevent external contaminants and moisture from entering the charging interface 16. By arranging the first magnetic element 24 and the second magnetic element 17 attracting each other, the cover 20 may maintain in the initial position relative to the body portion 10 (that is, the first state) when charging is not required, such that the charging interface 16 may completely be covered, preventing the charging interface 16 from being exposed to the outside and being contaminated while not in use.

[0098] Further, as shown in FIG. 13, the body portion 10 and the cover 20 may be in a fourth state. To be specific, when the cover 20 and the body portion 10 are in the second state, the cover 20 may further be moved away from the body portion 10. At this moment, the first protrusion 21 may pass through the third protrusion 112 to release a connection between the cover 20 and the body portion 10, such that the cover 20 may be taken off from the body portion 10, that is, the body portion 10 and the cover 20 maintain in the fourth state.

[0099] In the fourth state, the cover 20 may completely be released from the body portion 10, such that components arranged inside the body portion 10, such as the

heating assembly 14 and the like, may be cleaned, repaired, and replaced.

[0100] In an embodiment, as shown in FIG. 1 and FIG. 2, the shell 11 of the atomization device 100 may be arranged with a display 18 to display a remaining battery and/or an output power of the battery 121. The display 18 may be electrically connected to the battery 121 through the circuit board 13. By arranging the display 18, the user may check the remaining battery at any time and may estimate remaining duration of working for the battery 121. By checking the output power of the battery 121 via the display 18, the user may adjust the output power of the battery 121.

[0101] As shown in FIG. 2, the body portion 10 may further include a button 19 and a protective shell 11A. As shown in FIG. 1 and FIG. 3, the button 19 may be arranged with the body portion 10 by protruding from a surface of the shell 11 and electrically connected to the circuit board 13 and the battery 121 to control the atomization device 100 to heat or stop heating the tobacco product 50. The protective shell 11A may be arranged at an outer side of the shell 11 to improve an aesthetic appearance of the atomization device 100 and protect the atomization device 100.

[0102] According to another aspect of the present disclosure, a method for assembling the atomization device may be provided to assemble the above-mentioned atomization device 100.

[0103] As shown in FIG. 14, the method includes following operations.

[0104] At block S10, the heating assembly may be assembled with the shell along the first direction.

[0105] To be specific, the heating body of the heating assembly may be mounted into the relief hole of the shell, and the heating member 144 may be exposed out of the shell.

[0106] At block S20, the protective holder may be assembled with the shell along the first direction to allow the heating assembly to be surrounded by the protective holder.

[0107] To be specific, the guide plate may be aligned with the guide groove, and the protective holder may be moved from a side of the shell away from the heating assembly towards the heating assembly, such that the guide plate may slide along the guide groove to engage the first engaging portion of the guide plate into the first engaging recess and to engage the third engaging portion into the second engaging recess.

[0108] At block S30, the cover may be assembled with the shell to cover a side of the shell connected with the protective holder.

[0109] To be specific, the cover may sleeve an end of a side of the shell arranged with the protective holder, and a first magnetic element and a second magnetic element attracting each other may be arranged on the case and the shell respectively to assemble the cover with the shell.

[0110] The present embodiment provides a simple

method for assembling the atomization device. The cover, the protective holder, and the heating assembly may be easily detached, such that components arranged inside the atomization device may be easily cleaned, repaired and replaced.

[0111] The above description illustrates embodiments of the present disclosure only, but does not limit the scope of the present disclosure. Any equivalent structural and process transformation performed based on the present specification and drawings and applied in other related art directly or indirectly shall be within the scope of the present disclosure.

Claims

1. An atomization device (100), **characterized by** comprising:

a body portion (10), comprising a shell (11) and a heating assembly (14), wherein the heating assembly (14) is detachably connected with the shell (11) to heat a tobacco product (50) to volatilize an ingredient of the tobacco product (50); a cover (20), arranged to slidably sleeve an outer side of an end of the shell (11) connected with the heating assembly (14); and a protective holder (30), arranged to be slidably connected with the shell (11) along a first direction and sleeve an outer side of the heating assembly (14).

2. The atomization device (100) according to claim 1, wherein the protective holder (30) comprises a holder body (31) and a guide plate (32) connected with the holder body (31), the holder body (31) is arranged to surround the heating assembly (14), and the guide plate (32) is slidably connected with the shell (11); and the shell (11) defines a guide groove (114) along the first direction, and the guide plate (32) is engaged with the guide groove (114) to allow the holder body (31) to slide relative to the shell (11).

3. The atomization device (100) according to claim 2, wherein two guide grooves (114) are defined on two opposing sides of the shell (11), and two faces of the holder body (31) contacting the shell (11) are arranged to abut against the two opposing sides of the shell (11); two guide plates (32) are arranged, each of the two guide plates (32) comprises a guide portion (322) and a connection portion (324); the connection portion (324) is parallel with the two opposing sides of the shell (11); and the guide portion (322) is arranged to extend from a side of the connection portion (324) away from the holder body (31), wherein two guide portions (322)

of the two guide plates (32) are arranged to extend towards each other.

4. The atomization device (100) according to claim 3, wherein a first engaging portion (115) is arranged to protrude from a side wall of the guide groove (114); a second engaging portion (326) is arranged to extend from the side of the connection portion (324) away from the holder body (31), such that two second engaging portions (326) are arranged on two connection portions (324) and extend towards each other; the second engaging portion (326) and the guide portion (322) are spaced apart from each other to define a first engaging recess (328) between the second engaging portion (326) and the guide portion (322); and the first engaging portion (115) is engaged into the first engaging recess (328) to connect the protective holder (30) with the shell (11).

5. The atomization device (100) according to claim 2, wherein a side of the holder body (31) close to the heating assembly (14) is arranged with a third engaging portion (33), the shell (11) defines a second engaging recess (116) in correspondence with the third engaging portion (33), and the third engaging portion (33) is engaged with the second engaging recess (116), such that the protective holder (30) is connected with the shell (11).

6. The atomization device (100) according to claim 1, wherein the cover (20) comprises a case (22) defining a chamber and a channel wall (23) defining a channel, the channel wall (23) is received in the chamber, the case (22) defines a smoke outlet (221), the channel wall (23) is connected with a periphery of the smoke outlet (221), the tobacco product (50) is received in the channel; the heating assembly (14) comprises a heating body (142) and a heating member (144), the heating body (142) is received in the chamber of the case (22), and the heating member (144) is exposed to an outside of the case (22); and when the cover (20) is engaged with the body portion (10), the channel wall (23) is covered by the protective holder (30), and the heating member (144) is inserted into the channel.

7. The atomization device (100) according to claim 6, wherein the case (22) comprises an outer case (222) and an inner case (223); the smoke outlet (221) is defined in the outer case (222); an end wall of the inner case (223) defines a relief

- hole (224) corresponding to the channel wall (23);
 an end of the channel wall (23) connected to the periphery of the smoke outlet (221) is arranged with a first hook (231), protruding from an outer surface of the channel wall (23) and extending away from the channel;
 the channel wall (23) is inserted into the relief hole (224), and the first hook (231) is arranged between the end wall of the inner case (223) and an end wall of the outer case (222), such that the channel wall (23) is connected to the case (22).
8. The atomization device (100) according to claim 7, wherein
 the end of the channel wall (23) connected to the periphery of the smoke outlet (221) is further arranged with a second hook, protruding from the outer surface of the channel wall (23) and extending away from the channel;
 the second hook (232) and the first hook (231) are spaced apart from each other; and
 the end wall of the inner case (223) is arranged between the first hook (231) and the second hook (232).
9. The atomization device (100) according to claim 7, wherein the outer surface of the end of the channel wall (23) connected to the periphery of the smoke outlet (221) and a side wall of the relief hole (224) is arranged with a positioning block and defines a positioning recess, respectively, and the positioning block is able to be engaged with the positioning recess.
10. The atomization device (100) according to claim 6, wherein
 a side wall of the smoke outlet (221) is arranged with a protrusion to abut against the tobacco product (50), such that a gap is defined between a periphery of the tobacco product (50) and the side wall of the smoke outlet (221);
 the channel wall (23) defines a vent (234) at the end connected to the periphery of the smoke outlet (221), such that air is able to flow from the smoke outlet (221) through the vent (234) to reach an outer side of the channel wall (23); and
 the vent (234) is defined by the outer surface of the end of the channel wall (23) connected to the periphery of the smoke outlet (221) recessing inwardly.
11. The atomization device (100) according to claim 10, wherein a wall of the protective holder (30) away from the heating body (142) is arranged to abut against the case (22).
12. The atomization device (100) according to claim 6, wherein an abutting portion (237) is arranged to protrude from the outer surface of the channel wall (23) and abut against an inner wall of the protective holder (30).
13. The atomization device (100) according to claim 6, wherein
 the heating assembly (14) further comprises a clamping portion (145), the clamping portion (145) is arranged to protrude from the heating member (144) to fix the heating member (144); and
 the atomization device (100) further comprises a bottom board (34), arranged on a side of the protective holder (30) close to the heating body (142), and the bottom board (34) defines a receiving recess (342) to receive the clamping portion (145).
14. A method for assembling an atomization device (100), the atomization device (100) comprising a body portion (10) having a shell (11) and a heating assembly (14), a cover (20), and a protective holder, and the method comprising:
 assembling (S10) the heating assembly with the shell along a first direction;
 assembling (S20) the protective holder with the shell along the first direction, wherein the heating assembly is surrounded by the protective holder; and
 assembling (S30) the cover with the shell along the first direction, wherein the cover covers an outer side of an end of the shell connected with the protective holder.
15. The method according to claim 14, wherein
 the shell defines a guide groove along a first direction, and a first engaging portion is arranged to protrude from a side wall of the guide groove;
 the protective holder is arranged with a guide plate, and the guide plate defines a first engaging recess; and
 the assembling (S20) the protective holder with the shell along the first direction comprises:
 aligning the guide plate with the guide groove;
 moving the protective holder from a side of the shell away from the heating assembly towards another side of the shell close to the heating assembly and
 engaging the guide plate with the guide groove in a slidable manner by engaging the first engaging portion into the first engaging recess.

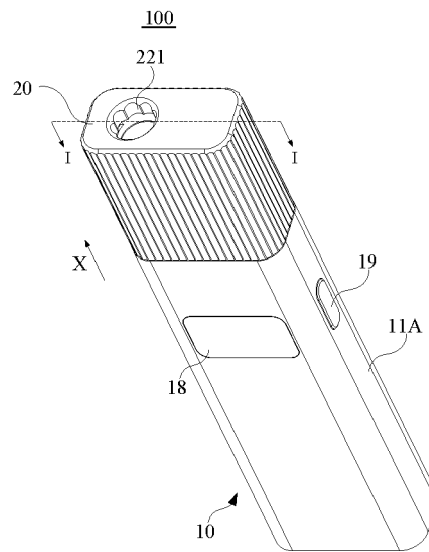


FIG. 1

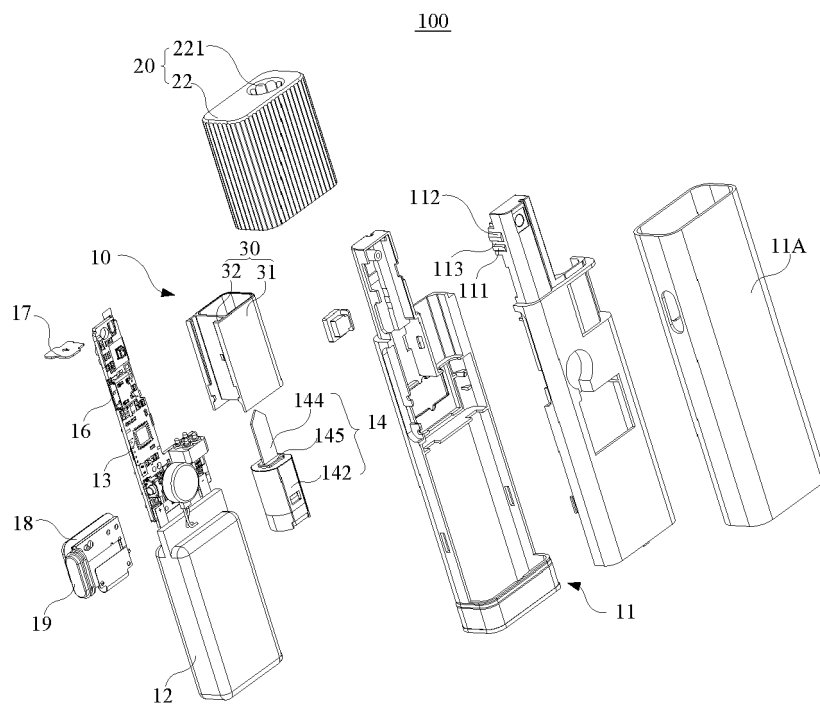


FIG. 2

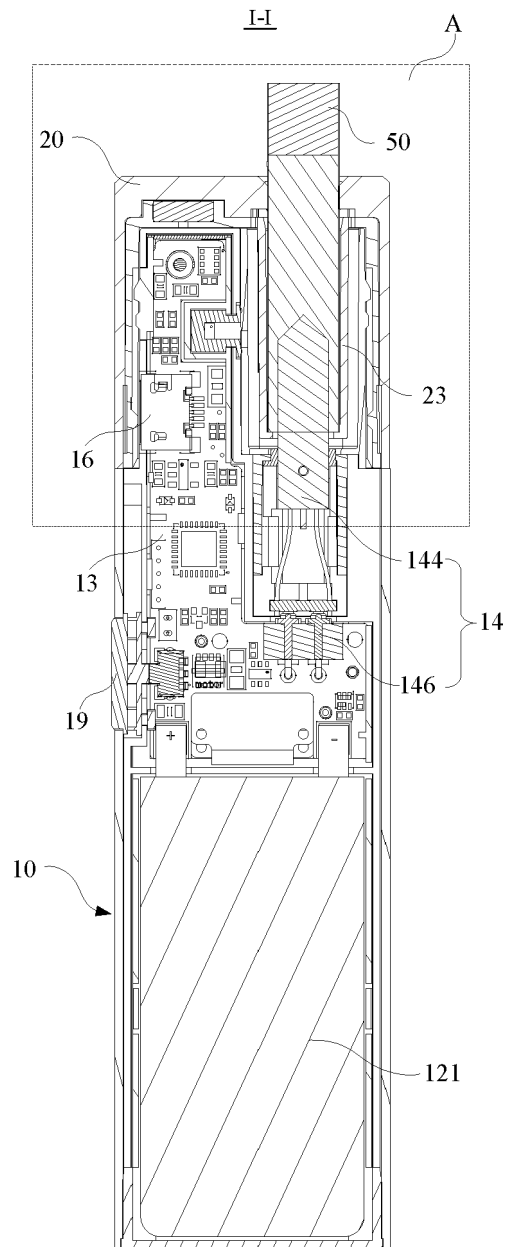


FIG. 3

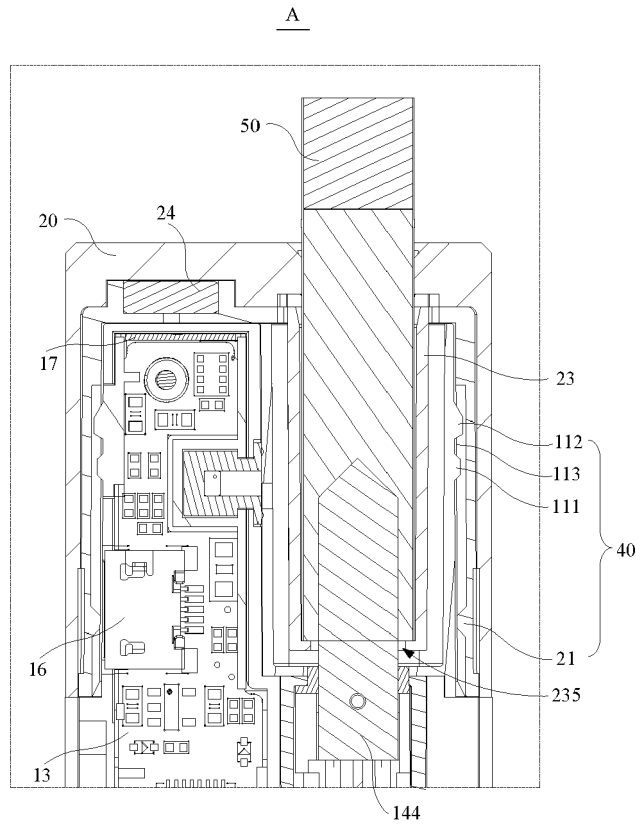


FIG. 4

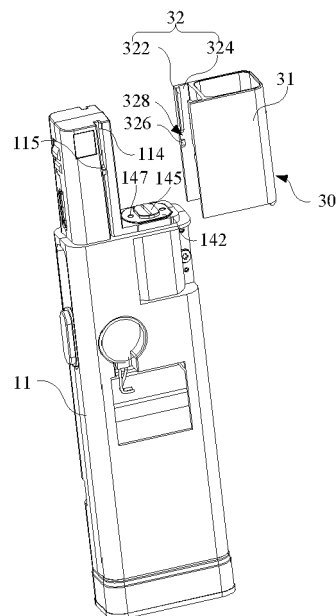


FIG. 5

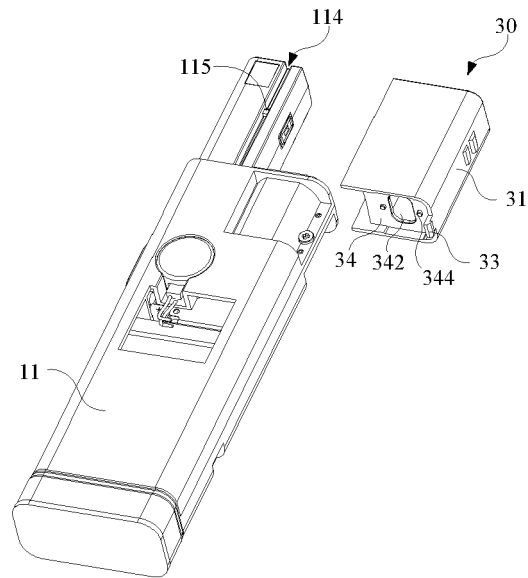


FIG. 6

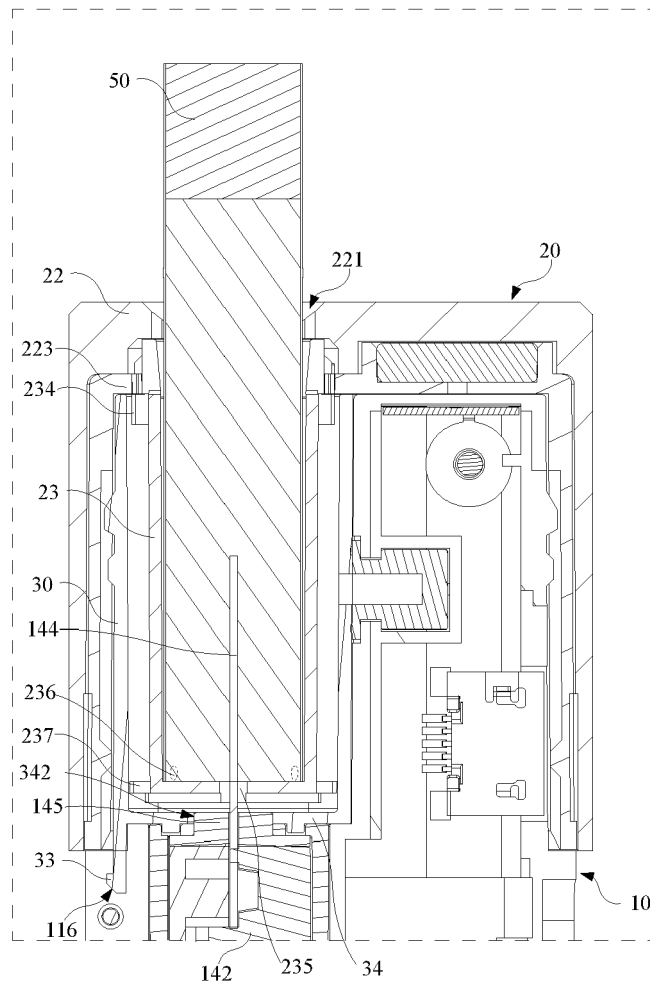


FIG. 7

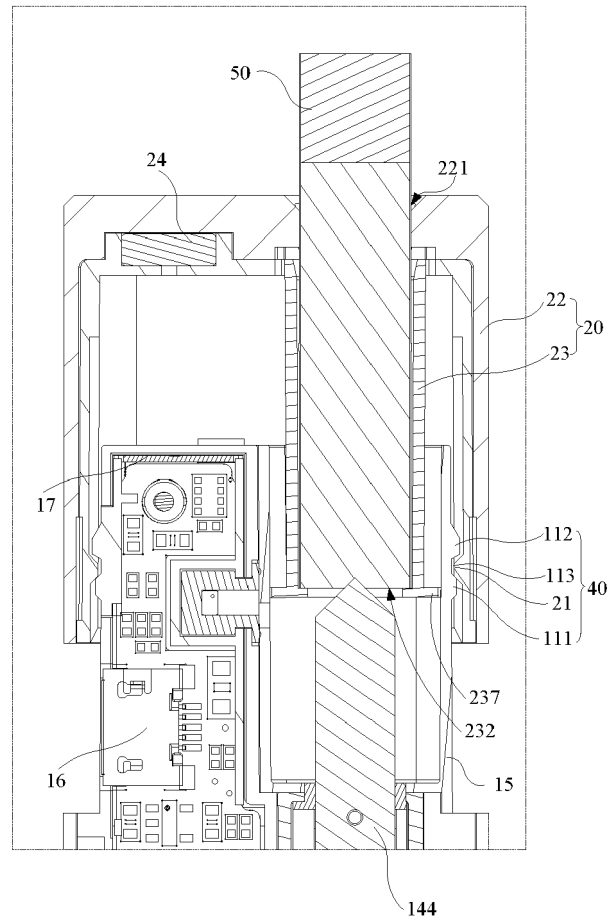


FIG. 8

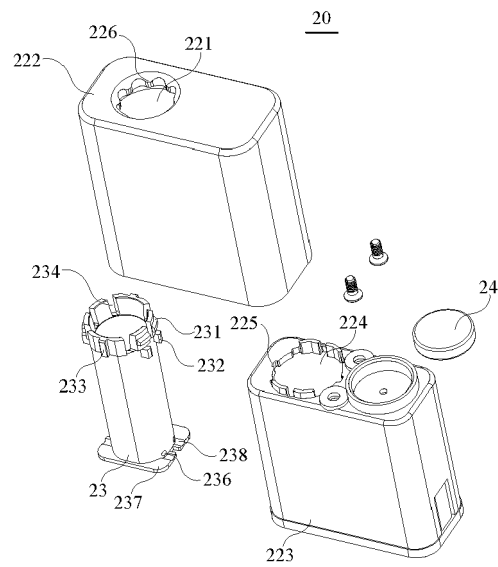


FIG. 9

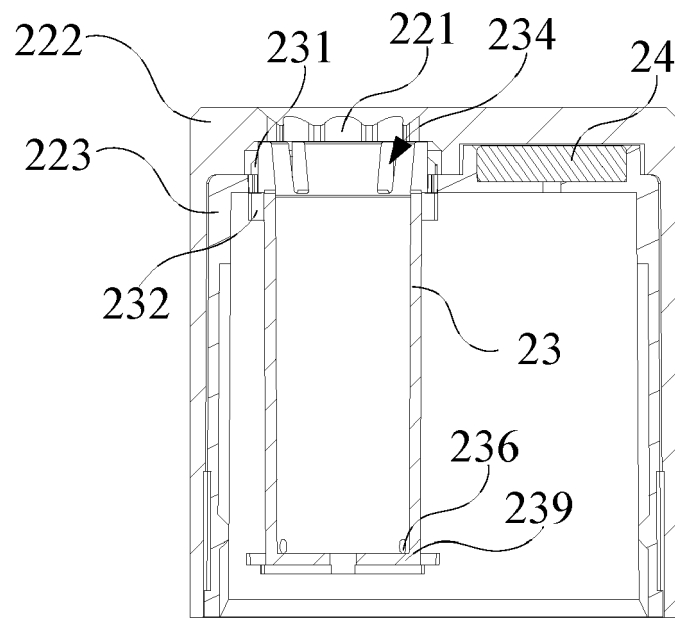


FIG. 10

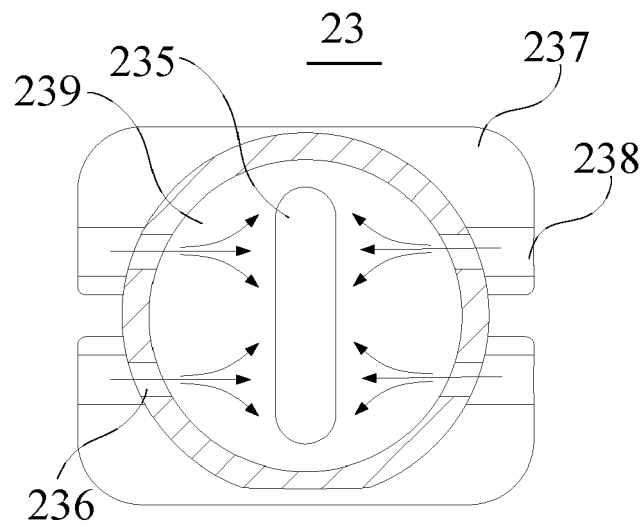


FIG. 11

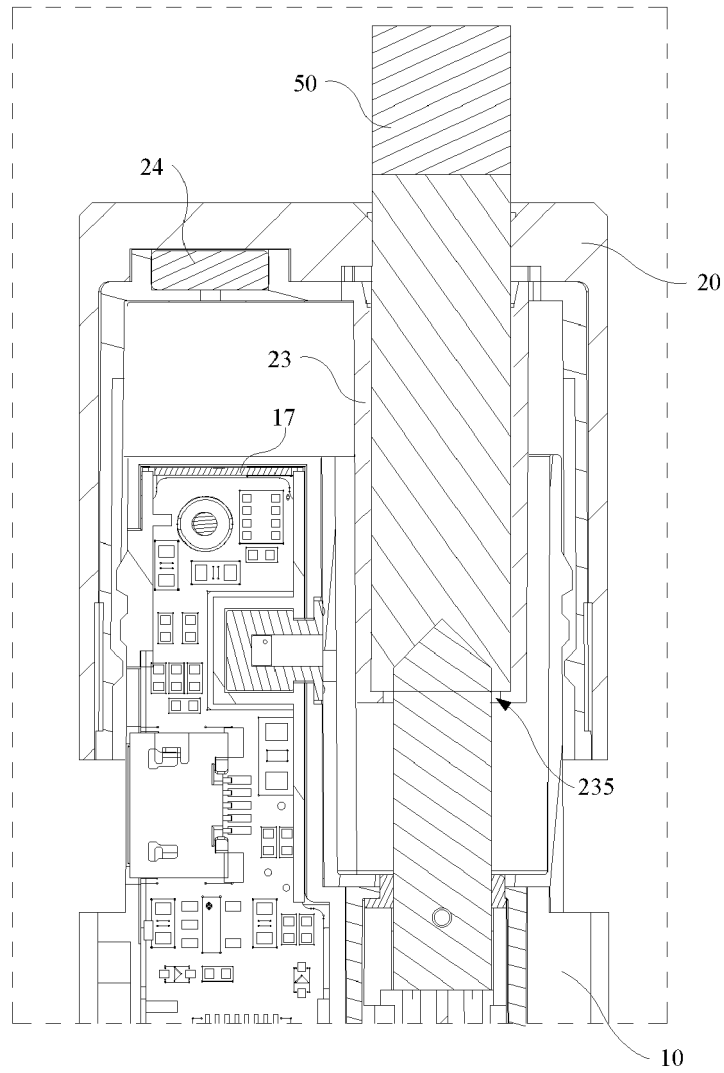


FIG. 12

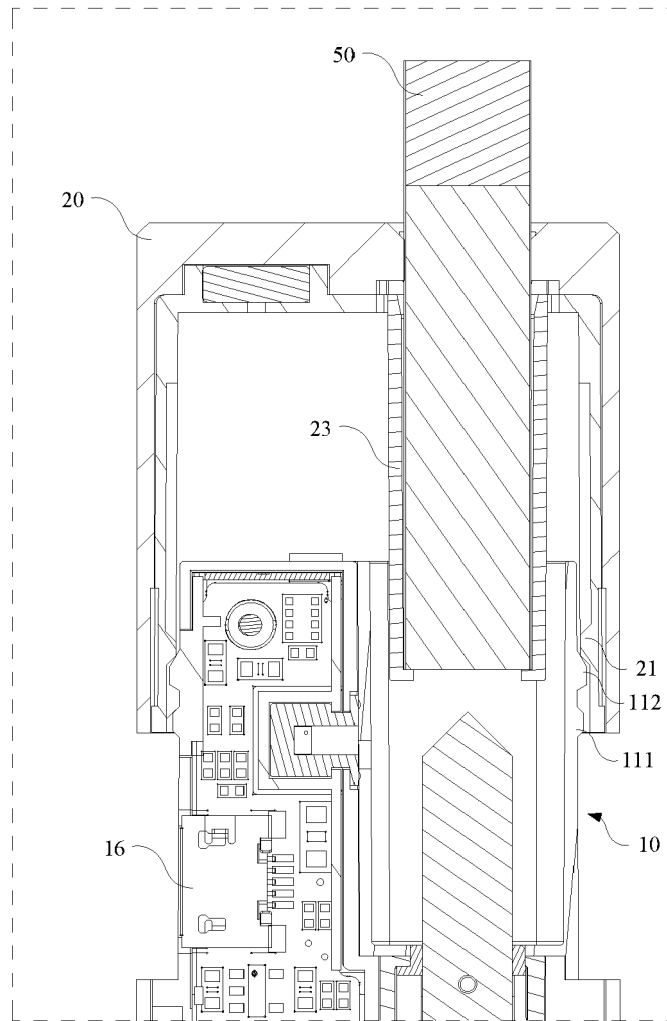


FIG. 13

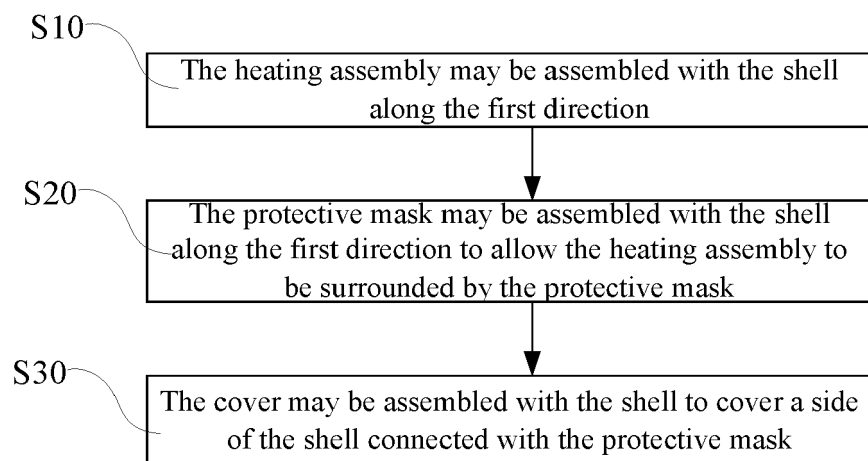


FIG.14



EUROPEAN SEARCH REPORT

 Application Number
 EP 19 21 4699

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	CN 108 741 236 A (CHANGNING DEKANG BIOTECHNOLOGY SHENZHEN CO LTD) 6 November 2018 (2018-11-06) * paragraph [0029] - paragraph [0043]; figures 1-8 *	1,2,14, 15	INV. A24F40/20 A24F40/40
A	----- WO 2015/157900 A1 (KIMREE HI TECH INC) 22 October 2015 (2015-10-22) * paragraph [0045] - paragraph [0065]; figures 1-11 *	3-13 1-15	
A	----- CN 107 713 009 A (HUBEI CHINA TOBACCO IND CO LTD) 23 February 2018 (2018-02-23) * paragraph [0026] - paragraph [0039]; figures 1-6 *	1-15	
			TECHNICAL FIELDS SEARCHED (IPC)
			A24F
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 22 April 2020	Examiner Klintebäck, Daniel
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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

EP 19 21 4699

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

22-04-2020

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
CN 108741236 A	06-11-2018	NONE	
WO 2015157900 A1	22-10-2015	CN 106413440 A WO 2015157900 A1	15-02-2017 22-10-2015
CN 107713009 A	23-02-2018	CN 107713009 A WO 2019105354 A1	23-02-2018 06-06-2019

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82