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(54) AEROSOL DELIVERY COMPONENT

(57) The present disclosure relates to an aerosol delivery component (e.g. a smoking substitute component) comprising: a first aerosolisation portion (which may be a passive aerosolisation portion) configured to generate a first aerosol from a first aerosol precursor; and a second aerosolisation portion (which may be an active aerosolisation portion) configured to generate a second aerosol from a second aerosol precursor. The component further comprises a mouthpiece portion (309) having a first outlet aperture (307) for outlet of the first and second aerosols and at least one second outlet aperture (400a, 400b) for outlet of the second aerosol. A mouthpiece cap (403) having a first cap member (404) is also provided, the first cap member (404) being moveable between a closed position in which the at least one second outlet aperture (400a, 400b) is closed, and an open position in which the at least one second outlet aperture (400a, 400b) is open.

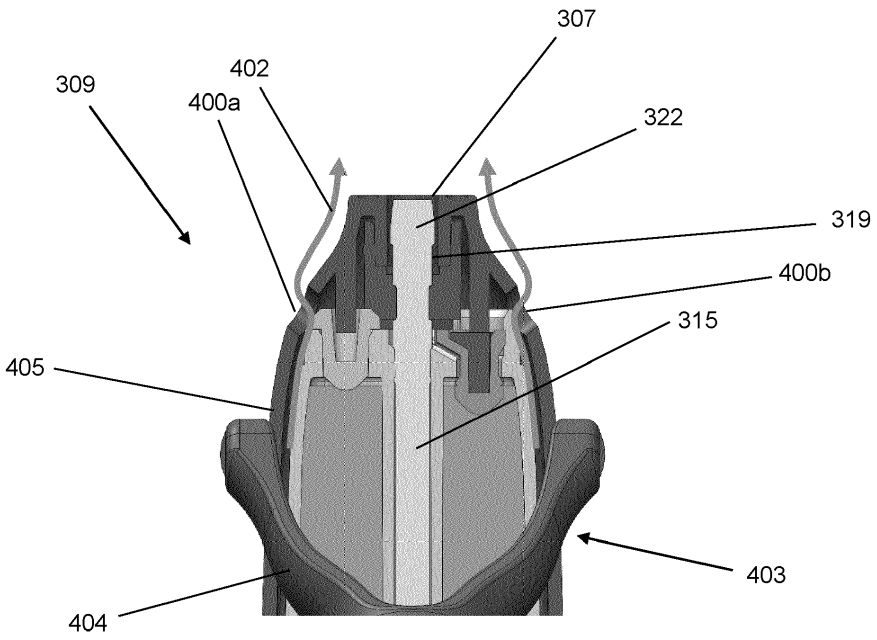

Fig. 4A

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Description

Field of the Invention

[0001] The present invention relates to an aerosol delivery component and system, and particularly, although not exclusively, to an aerosol delivery component/system configured to selectively deliver either a single aerosol or combined first and second aerosols.

Background

[0002] One form of an aerosol delivery device is a smoking-substitute system, which is an electronic system that permits the user to simulate the act of smoking by producing an aerosol or vapour that is drawn into the lungs through the mouth and then exhaled. The inhaled aerosol or vapour typically bears nicotine and/or other flavourings without the odour and health risks associated with traditional smoking and tobacco products. In use, the user experiences a similar satisfaction and physical sensation to those experienced from a traditional smoking or tobacco product, and exhales an aerosol or vapour of similar appearance to the smoke exhaled when using such traditional smoking or tobacco products.

[0003] One approach for a smoking substitute system is the so-called "vaping" approach, in which a vaporisable liquid, typically referred to (and referred to herein) as "e-liquid", is heated by a heating element to produce an aerosol/vapour which is inhaled by a user. The e-liquid typically includes a base liquid as well as nicotine and/or flavourings. The resulting vapour therefore also typically contains nicotine and/or flavourings. The base liquid may include propylene glycol and/or vegetable glycerine.

[0004] A typical vaping smoking substitute system includes a mouthpiece, a power source (typically a battery), a tank for containing e-liquid, as well as a heating element. In use, electrical energy is supplied from the power source to the heating element, which heats the e-liquid to produce an aerosol (or "vapour") which is inhaled by a user through the mouthpiece.

[0005] Vaping smoking substitute systems can be configured in a variety of ways. For example, there are "closed system" vaping smoking substitute systems, which typically have a sealed tank and heating element. The tank is pre-filled with e-liquid and is not intended to be refilled by an end user. One subset of closed system vaping smoking substitute systems include a device which includes the power source, wherein the device is configured to be physically and electrically coupled to a consumable including the tank and the heating element. The consumable may also be referred to as a cartomizer. In this way, when the tank of a consumable has been emptied, the consumable is disposed of. The device can be reused by connecting it to a new, replacement, consumable. Another subset of closed system vaping smoking substitute systems are completely disposable, and intended for one-use only.

[0006] There are also "open system" vaping smoking substitute systems which typically have a tank that is configured to be refilled by a user. In this way the system can be used multiple times.

[0007] An example vaping smoking substitute system is the myblu® system. The myblu® system is a closed system which includes a device and a consumable. The device and consumable are physically and electrically coupled together by pushing the consumable into the device. The device includes a rechargeable battery. The consumable includes a mouthpiece, a sealed tank which contains e-liquid, as well as a heating element, which for this system is a heating filament coiled around a portion of a wick. The wick is partially immersed in the e-liquid, and conveys e-liquid from the tank to the heating filament. The device is activated when a microprocessor on board the device detects a user inhaling through the mouthpiece. When the system is activated, electrical energy is supplied from the power source to the heating element, which heats e-liquid from the tank to produce a vapour which is inhaled by a user through the mouthpiece.

[0008] For a smoking substitute system it is desirable to deliver nicotine into the user's lungs, where it can be absorbed into the bloodstream. As explained above, in the vaping approach, e-liquid is heated by a heating element to produce an aerosol/vapour which is inhaled by a user. Many e-cigarettes also deliver flavour to the user, to enhance the experience. Flavour compounds may be contained in the e-liquid that is heated. Heating of the flavour compounds may be undesirable as the flavour compounds are inhaled into the user's lungs. Toxicology restrictions are placed on the amount of flavour that can be contained in the e-liquid. This can result in some e-liquid flavours delivering a weak and underwhelming taste sensation to consumers in the pursuit of safety. Furthermore, the user has option to selectively inhale flavoured or unflavoured e-liquid.

[0009] It is desirable to be able to improve flavour delivery to the user. It is also desirable to provide the user with control over whether or not they inhale a flavour compound along with the e-liquid.

[0010] The present invention has been devised in light of the above considerations.

Summary of the Invention

[0011] According to a first aspect there is provided an aerosol delivery component comprising:

a first aerosolisation portion configured to generate a first aerosol from a first aerosol precursor;

a second aerosolisation portion configured to generate a second aerosol from a second aerosol precursor;

a mouthpiece portion having a first outlet aperture for outlet of the first and second aerosols and at least one second outlet aperture for outlet of the second aerosol; and

a mouthpiece cap having a first cap member moveable between a closed position in which the at least one second outlet aperture is closed, and an open position in which the at least one second outlet aperture is open.

[0012] By providing a mouthpiece cap having a cap member movable between a closed position in which the at least one second outlet aperture is closed (such that both first and second aerosol pass through the first outlet aperture), and an open position in which the second outlet aperture is open (such that only second aerosol passes through the second outlet aperture), the user can chose to inhale either a combination of the first and second aerosols through the first outlet aperture (with the cap member in the closed position) or inhalation of only the second aerosol through the second outlet aperture (with the cap member in the open position).

[0013] Optional features will now be set out. These are applicable singly or in any combination with any aspect.

[0014] The first aerosolisation portion may be downstream of the second aerosolisation portion.

[0015] The terms "upstream" and "downstream" are used with reference to the direction of airflow (from a component inlet to a component outlet) through the component during normal use of the component (i.e. by way of inhalation at the mouthpiece portion). Similarly, the terms "upper" and "lower" are used with reference to the component during normal use (i.e. in an upright orientation (i.e. with the mouthpiece portion uppermost)).

[0016] There may be a first flow path extending from the second aerosolisation portion to the first outlet aperture and a second air flow path extending from the second aerosolisation portion to the at least one second outlet aperture.

[0017] The first aerosolisation portion may be in fluid communication with (only) the first flow path.

[0018] The first flow path may extend downstream of the at least one second flow path. The first outlet may be downstream of the at least one second outlet.

[0019] The first flow path may comprise a downstream portion (e.g. downstream of the second flow path) extending to the first outlet aperture that is substantially aligned with the longitudinal axis of the mouthpiece portion. The first outlet aperture may be substantially aligned with the longitudinal axis of the mouthpiece portion. Thus the first outlet aperture may be a central, axial aperture in the downstream axial end wall of the mouthpiece portion.

[0020] There may be a plurality of second outlet apertures/second flow paths. For example, there may be two laterally opposed second outlet apertures/flow paths. The second outlet aperture(s) may be (a) lateral aperture(s) in the wall(s) (e.g. side wall(s)) of the mouthpiece portion.

[0021] The second flow path is selectively obstructable by movement of the first cap member to the closed position i.e. in the closed position of the first cap member, the first cap member blocks the at least one second outlet aperture and thus blocks the second flow path. In the closed position, the first outlet aperture and thus the first flow path is not blocked by the first cap member.

[0022] The first cap member may be rotatably/pivotally/hingedly mounted on the mouthpiece portion. The first cap member may be rotatably/pivotally/hingedly mounted about a transverse axis perpendicular to the longitudinal axis of the mouthpiece portion.

[0023] In the closed position, the first cap member may at least partly enclose at least a portion of the mouthpiece portion e.g. it may enclose/overlie/abut (side) walls of the mouthpiece portion. It may also enclose/overlie/abut the downstream axial end wall of the mouthpiece portion.

[0024] In the open position, the first cap member may be pivoted so that it no longer encloses the (side) walls/downstream axial end face of the mouthpiece portion.

[0025] The first cap member may comprise a central portion and two depending side arms with the ends of the side arms distal the central portion pivotally connected to the mouthpiece portion e.g. to the side walls of the mouthpiece component. In the closed position, the side arms enclose/overlie/abut the side walls of the mouthpiece portion thus blocking the at least one second outlet aperture. The side arms may have a shape conforming to the shape of the side walls of the mouthpiece portion. The central portion may enclose/overlie/abut the downstream axial end face of the mouthpiece portion.

[0026] The first cap member may comprise a cap aperture e.g. a central cap aperture which may be aligned with the first outlet aperture when the first cap member is in the closed position. In this way, the first and second aerosols can pass along the first flow path to the first outlet aperture and then through the cap aperture to the user. The central cap aperture may be provided in the central portion of the first cap member.

[0027] In the open position, the first cap member is pivoted away from overlying the at least one second aperture i.e. so that the side arms no longer enclose/overlie/abut the side walls of the mouthpiece portion and the central portion no longer encloses/overlies/abuts the downstream axial end face of the mouthpiece portion.

[0028] The first flow path may comprise a constriction (downstream of the second flow path) such that the transverse cross-section of the first air flow path at the constriction is smaller than the transverse cross-section of the at least one second air flow path.

[0029] The constriction may comprise an aerosolisation chamber. The first aerosolisation portion may comprise a liquid transfer element in fluid communication with the first liquid aerosol precursor and having an aerosol-generating portion housed within the aerosolisation chamber.

[0030] In some embodiments, the first outlet aperture is open in the open position. In these embodiments, in the open position, the flow rate through the second flow path is greater than through the first flow path as a result

of the constriction such that, as the user inhales at the mouthpiece portion with the first cap member in the open position, flow of the second aerosol is preferentially through the second air flow path.

[0031] In other embodiments, the first outlet aperture/first flow path is blocked in the open position of the first cap member. In these embodiments, the mouthpiece cap may further comprise a second cap member which movable to block the first outlet aperture when the first cap member is in the open position.

[0032] The second cap member may be rotatably/pivotally/hingedly mounted on the mouthpiece portion. The second cap member may be rotatably/pivotally/hingedly mounted about a transverse axis perpendicular to the longitudinal axis of the mouthpiece portion e.g. to the same transverse axis about with the first cap member is mounted.

[0033] The second cap member may comprise a central portion and two depending side arms with the ends of the side arms distal the central portion pivotally connected to the mouthpiece portion e.g. to the side walls of the mouthpiece component. The central portion is preferably solid i.e. un-apertured. At least one of the side arms may comprise a side aperture.

[0034] When the first cap member is in the open position, the second cap member may enclose at least a portion of the mouthpiece portion e.g. it may enclose/overlie/abut side walls of the mouthpiece portion when the first cap member is in the open position. It may also enclose overlie/abut the downstream axial end wall of the mouthpiece portion. The side arms of the second cap member may enclose/overlie/abut the side walls of the mouthpiece portion with the at least one side aperture aligned with a respective second outlet aperture such that second aerosol can pass from the second flow path through the at least one outlet/side apertures. The side arms of the second cap member may have a shape conforming to the shape of the side walls of the mouthpiece portion. The central portion may enclose/overlie/abut the downstream axial end face of the mouthpiece portion thus blocking the first outlet aperture/first flow path.

[0035] When the first cap member is in the closed position, the second cap member may be pivoted out of abutment with the side walls/downstream axial end face of the mouthpiece portion so that the mouthpiece portion is no longer enclosed by the second cap member.

[0036] The first and second cap members may each before formed of a stretchable and/or conformable material such as silicone to assist in the conforming of the side arms to the side walls of the mouthpiece portion.

[0037] The first aerosolisation portion may be a passive aerosolisation portion configured to generate the first aerosol without application of heat.

[0038] The first aerosol precursor may be a flavoured precursor in which case, the first aerosol will be a flavoured aerosol. For example, it may comprise a liquid flavourant having a menthol, liquorice, chocolate, fruit flavour (including e.g. citrus, cherry etc.), vanilla, spice (e.g. ginger, cinnamon) and/or tobacco flavour. In this way, with the first cap member in the closed position, the user can chose to inhale a flavoured aerosol by moving the first cap member to the closed position.

[0039] The first aerosol may be sized to inhibit pulmonary penetration. The first aerosol may be formed of particles with a mass median aerodynamic diameter that is greater than or equal to 15 microns, e.g. greater than 30 microns, or greater than 50 microns, or may be greater than 60 microns, or may be greaterthan 70 microns.

[0040] The first aerosol may be sized for transmission within at least one of a mammalian oral cavity and a mammalian nasal cavity. The first aerosol may be formed by particles having a maximum mass median aerodynamic diameter that is less than 300 microns, or e.g. less than 200 microns, or less than 100 microns. Such a range of mass median aerodynamic diameter can produce aerosols which are sufficiently small to be entrained in an airflow caused by a user drawing air through the aerosol delivery component and to enter and extend through the oral and or nasal cavity to activate the taste and/or olfactory receptors.

[0041] The size of aerosol formed without heating may be typically smaller than that formed by condensation of a vapour.

[0042] It is noted that the mass median aerodynamic diameter is a statistical measurement of the size of the particles/droplets in an aerosol. That is, the mass median aerodynamic diameter quantifies the size of the droplets that together form the aerosol. The mass median aerodynamic diameter may be defined as the diameter at which 50% of the particles/droplets by mass in the aerosol are larger than the mass median aerodynamic diameter and 50% of the particles/droplets by mass in the aerosol are smaller than the mass median aerodynamic diameter. The "size of the aerosol", as may be used herein, refers to the size of the particles/droplets that are comprised in the particular aerosol.

[0043] The second aerosolisation portion may be an active aerosolisation portion configured to generate the second aerosol by application of energy e.g. heat or vibration energy. The active aerosolisation portion may comprise a vaporiser having a heating element.

[0044] The second aerosol precursor may be an e-liquid.

[0045] The aerosol delivery component may be a smoking substitute component (e.g. an e-cigarette component).

[0046] The aerosol delivery component may be a consumable part of an aerosol delivery system e.g. a consumable for a smoking substitute system. In this regard, the component may be a termed "a consumable".

[0047] The aerosol delivery component may comprise a tank defining a storage chamber for containing the first aerosol precursor. The first aerosol precursor may be stored in the tank in the form of a free liquid. Alternatively, a porous body may be disposed within the storage chamber, which may contain the first aerosol precursor.

[0048] The tank may at least partially define the first and/or second flow path. For example, the flow passage may be partly defined between an outer surface of the tank and an inner surface of a component housing (which may be integral with the mouthpiece portion).

[0049] The aerosol delivery component may comprise an air bleed channel configured to allow the bleeding of air into the storage chamber to replace (first) aerosol precursor that is removed from the storage chamber.

[0050] As discussed above, the first aerosolisation portion may comprise a liquid transfer element in fluid communication with the first liquid aerosol precursor and having an aerosol-generating portion housed within the aerosolisation chamber. The liquid transfer element may be a porous/wicking liquid transfer element (i.e. formed of a porous/wicking material). As will be described further below, the liquid transfer element may be configured to generate a first aerosol in the first flow path.

[0051] The liquid transfer element may further comprise a conveying portion. The conveying portion may be elongate and generally cylindrical, and may be at least partially enclosed within one or more internal walls of the aerosol delivery component. The one or more internal walls enclosing the conveying portion may form part of the tank defining the storage chamber. In this respect, the tank may at least partly surround (e.g. may fully surround) the conveying portion of the liquid transfer element. That is, the tank may define a conduit through which the conveying portion passes. Thus, the conveying portion may extend generally longitudinally (e.g. centrally) through a portion of the tank (i.e. through the conduit defined by the tank).

[0052] The liquid transfer element may be supported in the aerosol delivery component by the mouthpiece portion. That is, the mouthpiece portion may comprise a collar for holding (and gripping) the liquid transfer element in position within the aerosol delivery component.

[0053] The aerosol generating portion of the liquid transfer element may be disposed at a downstream end of the conveying portion and may thus define a downstream longitudinal end of the liquid transfer element. The aerosol generating portion may be at least partly located in the first flow path so as to be exposed to airflow within the first flow path. The aerosolisation chamber may be located proximate to (and in fluid communication with) the first outlet aperture. Airflow along the first flow path may pass across or through the aerosol generating portion of the liquid transfer element prior to being discharged through the first outlet aperture.

[0054] The aerosol generating portion may define an enlarged (e.g. radially enlarged) portion of the liquid transfer element. For example, the aerosol generating portion may be bulb-shaped or bullet-shaped, and may comprise a portion which is wider than the conveying portion. The aerosol generating portion may taper (inwardly) to a tip at a downstream end of the aerosol generating portion (i.e. proximate the outlet/mouthpiece aperture). The aerosol-generating portion may have a flattened downstream end surface.

[0055] The liquid transfer element may extend into the storage chamber so as to be in contact with (e.g. at least partially submerged in) the first aerosol precursor. In this way, the liquid transfer element may be configured to convey (e.g. via a wicking/capillary action) the first aerosol precursor from the storage chamber to the aerosolisation chamber. As will be described further below, this may allow the first aerosol precursor to form an aerosol and be entrained in an airflow passing through the aerosolisation chamber (i.e. for subsequent receipt in a user's mouth).

[0056] As discussed above, the first flow path may be constricted at the aerosolisation chamber. For example, the presence of the aerosol generating portion in the aerosolisation chamber may create a constricted or narrowed portion of the first flow path (because the aerosol generating portion extends partway across the first flow path). In this respect, the narrowest portion of the first flow path may be at aerosolisation chamber (adjacent to the aerosol generating portion of the liquid transfer element). This constriction increases the velocity of air/vapour passing through the aerosolisation chamber. In this respect, the constriction may be referred to as a Venturi aperture. The constriction may have a toroidal shape (i.e. extending about the aerosol generating portion of the liquid transfer element). The toroidal shape may, however, be interrupted by supports (e.g. projections, ribs, etc.) protruding inwardly from wall(s) of the aerosolisation chamber to support the aerosol generating portion in the aerosolisation chamber.

[0057] In addition to increasing the airflow velocity, the constriction reduces the air pressure of the airflow flowing through the constriction (i.e. in the vicinity of the aerosol generating portion). This low pressure and high velocity facilitate the generation of an aerosol from the first aerosol precursor held in the aerosol generating portion (i.e. transferred from the storage chamber by the liquid transfer element). This first aerosol is entrained in the airflow passing through the constriction and is discharged from the first outlet aperture.

[0058] The first and second flow paths may both comprise a generally longitudinal upstream portion. The longitudinal portion may extend within the spacing between the component housing (which may be integral with the mouthpiece portion) and the tank. The upstream longitudinal portions of the first/second air flow paths may be a single (annular) flow passage around the tank or they may comprise two branches which split around the tank.

[0059] The first flow path then deflects towards the aerosolisation chamber and the axial downstream portion of the first flow path. The second flow path(s) deflect(s) away from the aerosolisation chamber to the at least one second outlet aperture.

[0060] The above configuration of the aerosol delivery component may be representative of an activated state of the aerosol delivery component. The aerosol delivery component may additionally be configurable in a deacti-

vated state. In the deactivated state, the liquid transfer element may be isolated from the first aerosol precursor. This isolation may, for example, be provided by a plug (e.g. formed of silicon). The plug may be located at an end (i.e. upstream end) of the conduit (defined by the tank) so as to provide a barrier between the first aerosol precursor in the storage chamber and the conveying portion of the liquid transfer element. Alternatively, the aerosol delivery component may comprise a duck bill valve, a split valve or diaphragm; or a sheet of foil isolating the liquid transfer element from the first aerosol precursor.

[0061] In the deactivated state, the air bleed channel may be sealed by a sealing element. The sealing element may, for example, be in the form of a bung or plug (e.g. a silicone bung or plug). At least a portion of the bung may be received in the air bleed channel when the aerosol delivery component is in the deactivated state, so as to block the passage of airflow through the air bleed channel. The sealing element may alternatively be in the form of a pierceable membrane (e.g. formed of a metal foil) extending across the air bleed channel.

[0062] The mouthpiece portion may be movable relative to the tank defining the storage chamber. The mouthpiece portion may be movable relative to the air bleed channel. In particular, movement of the mouthpiece portion may be in the longitudinal direction of the aerosol delivery component.

[0063] The mouthpiece portion may comprise an activation member, which may protrude internally from an internal surface of mouthpiece portion. When the mouthpiece portion is moved longitudinally in an upstream direction i.e. towards the storage tank, a distal end of the activation member may engage the sealing element so as to move the sealing element (i.e. in the upstream direction) relative to the air bleed channel. This movement of the sealing element may open the air bleed channel, so as to allow airflow therethrough and so as to move the aerosol delivery component to the activated state.

[0064] When the sealing element is a bung, the bung may comprise an enlarged end that extends fully across the air bleed channel, and a neck portion that extends only partway across the air bleed channel. Movement of the bung along the air bleed channel by the activation member may cause the enlarged end of the bung to move into the storage chamber such that only the neck portion remains in the air bleed channel. Thus, airflow may be permitted through the air bleed channel between the neck portion and the walls of the air bleed channel.

[0065] When the sealing element is a pierceable membrane, the activation member may pierce the pierceable membrane when moved in the upstream direction. To facilitate such piercing, the activation member may be in the form of a blade, or may be pointed.

[0066] The movement of the mouthpiece portion may also cause longitudinal upstream movement of the liquid transfer element through the conduit defined by the tank. The conveying portion of the liquid transfer element may engage the plug (or duck bill valve, split valve, etc.) so as to disengage the plug from the end of the conduit. Removal of the plug in this way means that the conveying portion comes into contact with the first aerosol precursor (i.e. so as to be able to convey the first aerosol precursor to the aerosol generating portion of the liquid transfer element).

[0067] The passive aerosolisation portion may be engageable with the active aerolisation portion, for example, by way of an interference fit, snap-engagement, bayonet locking arrangement etc...

[0068] The component housing may comprise opposing apertures for engagement with respective lugs provided on the active aerosolisation portion (cartomizer) to secure the component housing to the active aerosolisation portion (cartomizer). There may be two sets of longitudinally spaced lugs and two sets of longitudinally spaced apertures with only the downstream lugs engaged within the upstream apertures when the component is in its deactivated state. Movement of the mouthpiece portion/component housing cases engagement of the upstream lugs in the upstream apertures and the downstream lugs in the downstream apertures.

[0069] In other embodiments, the passive aerosolisation portion and the active aerosolisation portion may be integrally formed.

[0070] The active (second) aerosolisation portion may comprise a vaporising chamber and a vapour outlet channel for fluid flow therethrough. The vapour outlet channel may be fluidly connected to the first and second flow path. The vapour outlet channel and vaporising chamber may fluidly connect a component inlet and the first/second flow paths. Thus, an airflow may be drawn into and through the active aerosolisation portion, and subsequently through the passive aerosolisation portion.

[0071] The aerosol delivery component i.e. the active aerosolisation portion may comprise a reservoir defined by a container for containing the second aerosol precursor (which may be an e-liquid). The second aerosol precursor may, for example, comprise a base liquid and a physiologically active compound e.g. nicotine. The base liquid may include an aerosol former such as propylene glycol and/or vegetable glycerine.

[0072] At least a portion of the container may be translucent or transparent. For example, the container may comprise a window to allow a user to visually assess the quantity of second aerosol precursor in the container. The vapour outlet channel may extend longitudinally through the container, wherein a channel wall of the vapour outlet channel may define the inner wall of the container. In this respect, the container may surround the vapour outlet channel, such that the container may be generally annular.

[0073] The aerosol delivery component i.e. the active aerosolisation portion may comprise a vaporiser. The vaporiser may be located in the vaporising chamber.

[0074] The vaporiser may comprise a wick. The vaporiser may further comprise a heater. The wick may comprise a porous material. A portion of the wick may be

exposed to fluid flow in the vaporising chamber. The wick may also comprise one or more portions in contact with the second aerosol precursor stored in the reservoir. For example, opposing ends of the wick may protrude into the reservoir and a central portion (between the ends) may extend across the vaporising chamber so as to be exposed to airflow in the vaporising chamber. Thus, fluid may be drawn (e.g. by capillary action) along the wick, from the reservoir to the exposed portion of the wick.

[0075] The heater may comprise a heating element, which may be in the form of a filament wound about the wick (e.g. the filament may extend helically about the wick). The filament may be wound about the exposed portion of the wick. The heating element may be electrically connected (or connectable) to a power source. Thus, in operation, the power source may supply electricity to (i.e. apply a voltage across) the heating element so as to heat the heating element. This may cause liquid stored in the wick (i.e. drawn from the reservoir) to be heated so as to form a vapour and become entrained in fluid/air flowing through the vaporising chamber. This vapour may subsequently cool to form the second aerosol in the vapour outlet channel. This aerosol generation is referred to as "active" aerosol generation, because it makes use of heat to generate the aerosol.

[0076] This second aerosol may subsequently flow from the vapour outlet channel to (and through) the first or second flow paths. Where the first cap member is in the closed position, the second aerosol flows along the first flow path, through the aerosolisation chamber to the first outlet aperture. Thus, the fluid received through the first outlet aperture of the aerosol delivery component may be a combination of the first aerosol and the second aerosol.

[0077] When the first cap member is in the open position, the second aerosol flows along the second flow path(s) to the second outlet aperture(s). As these are upstream of the aerosolisation chamber, the second aerosol does not pass through the constricted aerosolisation chamber and thus, the fluid received through the second outlet aperture(s) of the aerosol delivery component contains no first aerosol, only second aerosol.

[0078] The second aerosol generated is sized for pulmonary penetration (i.e. to deliver an active ingredient such as nicotine to the user's lungs). The second aerosol is formed of particles having a mass median aerodynamic diameter of less than or equal to 10 microns, preferably less than 8 microns, more preferably less than 5 microns, yet more preferably less than 1 micron. Such sized aerosols tend to penetrate into a human user's pulmonary system, with smaller aerosols generally penetrating the lungs more easily. The second aerosol may also be referred to as a vapour.

[0079] In a second aspect there is provided an aerosol delivery system (e.g. a smoking substitute system) comprising a device having a power source, and a component as described above with respect to the first aspect.

[0080] The component may be engageable/engaged with the device such that the vaporiser of the component/consumable is connected to the power source of the device.

[0081] For example, the active aerosolisation portion may be configured for engagement with the device.

[0082] The device and the component (e.g. the active aerosolisation portion of the component) may be configured to be physically coupled together. For example, the component may be at least partially received in a recess of the device, such that there is snap engagement between the device and the component. Alternatively, the device and the component may be physically coupled together by screwing one onto the other, or through a bayonet fitting.

[0083] Thus, the component may comprise one or more engagement portions for engaging with a device.

[0084] The device or the component may comprise a power source or be connectable to a power source. The power source may be electrically connected (or connectable) to the heater. The power source may be a battery (e.g. a rechargeable battery). An external electrical connector in the form of e.g. a USB port may be provided for recharging this battery.

[0085] The component may comprise an electrical interface for interfacing with a corresponding electrical interface of the device. One or both of the electrical interfaces may include one or more electrical contacts. Thus, when the device is engaged with the component, the electrical interface may be configured to transfer electrical power from the power source to a heater of the component. The electrical interface may also be used to identify the component from a list of known types. The electrical interface may additionally or alternatively be used to identify when the component is connected to the device.

[0086] The device may alternatively or additionally be able to detect information about the consumable via an RFID reader, a barcode or QR code reader. This interface may be able to identify a characteristic (e.g. a type) of the component. In this respect, the component may include any one or more of an RFID chip, a barcode or QR code, or memory within which is an identifier and which can be interrogated via the interface.

[0087] The device may comprise a controller, which may include a microprocessor. The controller may be configured to control the supply of power from the power source to the heater (e.g. via the electrical contacts). A memory may be provided and may be operatively connected to the controller. The memory may include non-volatile memory. The memory may include instructions which, when implemented, cause the controller to perform certain tasks or steps of a method.

[0088] The device may comprise a wireless interface, which may be configured to communicate wirelessly with another device, for example a mobile device, e.g. via Bluetooth®. To this end, the wireless interface could include a Bluetooth® antenna. Other wireless communication interfaces, e.g. WiFi®, are also possible. The wireless

interface may also be configured to communicate wirelessly with a remote server.

[0089] An airflow (i.e. puff) sensor may be provided that is configured to detect a puff (i.e. inhalation from a user). The airflow sensor may be operatively connected to the controller so as to be able to provide a signal to the controller that is indicative of a puff state (i.e. puffing or not puffing). The airflow sensor may, for example, be in the form of a pressure sensor or an acoustic sensor. The controller may control power supply to the heater in response to airflow detection by the sensor. The control may be in the form of activation of the heater in response to a detected airflow. The airflow sensor may form part of the component or the device.

[0090] In some embodiments, the aerosol delivery component may be a non-consumable component in which one or both of the first and second aerosol precursors of the component may be replenished by re-filling the reservoir or storage chamber of the component (rather than replacing the consumable component). In this embodiment, the component described above may be integral with the device. For example, the only consumable portion may be the first and/or second aerosol precursor contained in reservoir and storage chamber of the component. Access to the reservoir and/or storage chamber (for re-filling of the aerosol precursor) may be provided via e.g. an opening to the reservoir and/or storage chamber that is sealable with a closure.

[0091] In a third aspect there is provided a method of using a smoking substitute system as described above with respect to the second aspect, the method comprising engaging the component with the device so as to connect the vaporiser of the component with the power source of the device.

[0092] The method may comprise moving the first cap member to the open position to select delivery of only the second aerosol through the at least one second outlet aperture. The method may comprise moving the first cap member to the closed position to select delivery of both the first and second aerosols through the first outlet aperture.

[0093] The invention includes the combination of the aspects and preferred features described except where such a combination is clearly impermissible or expressly avoided.

Summary of the Figures

[0094] So that the invention may be understood, and so that further aspects and features thereof may be appreciated, embodiments illustrating the principles of the invention will now be discussed in further detail with reference to the accompanying figures, in which:

Figures 1A and 1B is a schematic drawing of an aerosol delivery system according to a first embodiment;

Figures 2A and 2B is a schematic drawing of an aerosol delivery system according to a second embodiment;

Figure 3A is a cross-sectional view of a consumable, according to a third embodiment, in a deactivated state;

Figure 3B is a cross-sectional view of the consumable of Figure 3A in an activated state;

Figures 4A and 4B is a first example of a component with the first cap member in the open position;

Figures 5A and 5B show the first example with the first cap member in the closed position;

Figure 6 shows a second example of a component with the first cap member in the open position; and

Figure 7 shows the second example with the first cap member in the closed position.

Detailed Description of the Invention

[0095] Aspects and embodiments of the present invention will now be discussed with reference to the accompanying figures. Further aspects and embodiments will be apparent to those skilled in the art.

[0096] Referring to figures 1A and 1B, there is shown a schematic view of an aerosol delivery system in the form of a smoking substitute system 10. In this example, the smoking substitute system 10 comprises a (first) passive aerosolisation portion in the form of flavour pod 102 and a (second) active aerosolisation portion in the form of cartomizer 101 connected to a device 100. In this example, the device 100 includes elements of the smoking substitute system 10 such as a battery, an electronic controller, and a pressure transducer (not shown). The cartomizer 101 may engage with the device 100 via a push-fit engagement, a screw-thread engagement, or a bayonet fit, for example.

[0097] The flavour pod 102 is configured to engage with the cartomizer 101 and thus with the device 100. The flavour pod 102 may engage with the cartomizer 101 via a push-fit engagement, a screw-thread engagement, or a bayonet fit, for example. Figure 1B illustrates the cartomizer 101 engaged with the device 100, and the flavour pod 102 engaged with the cartomizer 101. As will be appreciated, in this example, the cartomizer 101 and the flavour pod 102 are distinct elements.

[0098] As will be appreciated from the following description, in other embodiments the cartomizer 101 and the flavour pod 102 may be combined into a single integrated component that implements the combined functionality of the cartomizer 101 and flavour pod 102.

[0099] As is set forth above, reference to a "consumable" component may mean that the component is intended to be used once until exhausted, and then dis-

posed of as waste or returned to a manufacturer for reprocessing.

[0100] Referring to figures 2A and 2B, there is shown a smoking substitute system 20 comprising a device 200 and a consumable component 203. The consumable component 203 combines the functionality of the active aerosolisation portion (cartomizer 201) and the passive aerosolisation portion (flavour pod 202). In Figure 2A, the consumable component 203 and the device 200 are shown separated from one another. In Figure 2B, the consumable component 203 and the device 200 are engaged with each other to form the smoking substitute system 20.

[0101] Referring to Figure 3A, there is shown a consumable component 303 engagable with a device (not shown) via a push-fit engagement. The consumable component 303 is shown in a deactivated state. The consumable component 303 may be considered to have two portions — an active aerosolisation (cartomizer) portion 301 and a passive aerosolisation (flavour pod) portion 302, both of which are located within a single consumable component 303 (as in figures 2A and 2B). It should, however, be appreciated that in a variation, the cartomizer portion 301 and flavour pod portion 302 may be separate (but engageable) portions 9as in Figures 1A and 1B).

[0102] Figure 3A does not show the mouthpiece cap which will be described later with reference to Figures 4A-7.

[0103] The consumable component 303 includes an upstream component inlet opening 306, a downstream first outlet aperture 307 and two laterally opposed second outlet apertures 400a, 400b, positioned between the inlet opening 306 and the first outlet opening 307. Between, and fluidly connecting, the component inlet opening 306 and the first outlet aperture 307 there is an airflow passage comprising (in a downstream flow direction) a vaporising chamber 325 of the cartomizer portion 301, a vapour outlet channel 323 (also within the cartomizer portion 301) and a downstream flow passage 321 of the flavour pod portion 302. The component comprises a first air flow path 401 and a second air flow path 402 (shown in Figures 4A and 5A) both of which extend through the downstream flow passage 321.

[0104] The first air flow path 401 extends to the first outlet aperture 307 which is a central aperture aligned with the longitudinal axis of the component. The second airflow path 402 extends to the second outlet apertures 400a, 400b which are lateral apertures provided in a mouthpiece portion 309 of the consumable component 303.

[0105] As above, the consumable component 303 includes a passive aerosolisation (flavour pod) portion 302. The flavour pod portion 302 is configured to generate a first (flavoured) aerosol for output from the first outlet aperture 307. The flavour pod portion 302 of the consumable component 303 includes a liquid transfer element 315. This liquid transfer element 315 acts as a passive aerosol generator (i.e. an aerosol generator which does not use heat to form the aerosol), and is formed of a porous material. The liquid transfer element 315 comprises a conveying portion 317 and an aerosol generating portion 322, which is located in the vapour flow passage 321. In this example, the aerosol generating portion 322 is a porous nib.

[0106] When activated, as discussed in more detail below, a storage chamber 316 (defined by a tank 318) for storing a first aerosol precursor (i.e. a liquid comprising a flavourant) is fluidly connected to the liquid transfer element 315. The flavoured aerosol precursor, in this embodiment, is stored in a porous body within the storage chamber 316 (but may be a free-liquid). In the activated state, the liquid transfer element 315 is in contact with the flavoured aerosol precursor stored in the storage chamber 316 by way of contact with the porous body/free liquid.

[0107] The liquid transfer element 315 comprises an aerosol generating portion 322 and a conveying portion 317. The aerosol generating portion 322 is located at a downstream end (top of Figure 3A) of the liquid transfer element 315, whilst the conveying portion 317 forms the remainder of the liquid transfer element 315. The conveying portion 317 is elongate and substantially cylindrical. The aerosol generating portion 322 is bulb/bullet-shaped, and comprises a portion which is wider (has a greater radius) than the conveying portion 317. The aerosol generating portion 322 tapers to a tip at a downstream end of the liquid transfer element 315.

[0108] The liquid transfer element 315 extends into and through the storage chamber 316, such that the conveying portion 317 is in contact with the contents of the storage chamber 316. In particular, an inner wall of the tank 318 defines a conduit 324, through which the liquid transfer element 315 extends. The liquid transfer element 315 and the conduit 324 are located in a substantially central position within the storage chamber 316 and are substantially parallel to a central longitudinal axis of the consumable component 303.

[0109] The porous nature of the liquid transfer element 315 means that first (flavoured) aerosol precursor in the storage chamber 316 is drawn into the liquid transfer element 315. As the flavoured aerosol precursor in the liquid transfer element 315 is depleted in use, further flavoured aerosol precursor is drawn from the storage chamber 316 into the liquid transfer element 315 via a wicking action.

[0110] Before activation, the storage chamber 316 is fluidly isolated from the liquid transfer element 315. In this example, the isolation is achieved via a plug 320 (preferably formed from silicone) located at one end of a conduit 324 surrounding the liquid transfer element 315. In other examples, the plug may be replaced by any one of: a duck bill valve; a split valve or diaphragm; or a sheet of foil.

[0111] The storage chamber 316 further includes an air bleed channel 332, which in the deactivated state is sealed by a sealing element in the form of a pierceable

membrane (preferably made from foil). Activation (or piercing) member 330, which projects inwardly from the mouthpiece portion 309, and may take the form of a blade, pierces the pierceable membrane and opens the air bleed channel 332 when the consumable component 303 is moved to the activated state (as is discussed in more detail below).

[0112] The aerosol generating portion 322 is located within the first air flow path 401. The aerosol generating portion 322, by occupying a portion of the vapour flow passage 321, constricts or narrows the first flow path 401. This constricted or narrowed portion of the first flow path defines an aerosolisation chamber 319 of the consumable component 303. The aerosolisation chamber 319, which is adjacent the aerosol generating portion 322, is the narrowest portion of the first flow path 401. The constriction of the first flow path 401 at the aerosolisation chamber 319 results in increased air velocity and a corresponding reduction in air pressure of the air flowing therethrough and thus may be referred to as a Venturi aperture. The aerosolisation chamber 319 is generally toroidal in shape (extending circumferentially about the aerosol generating portion 322), but this toroidal shape may include one or more interruptions where supports extend inwardly to contact the aerosol generating portion 322 and to support the aerosol generating portion 322 within the aerosolisation chamber 319.

[0113] The cartomizer portion 301 of the consumable component 303 includes a reservoir 305 (defined by a container) for storing a second (e-liquid) aerosol precursor (which may contain nicotine). A wick 311 extends into the reservoir so as to be in contact with (i.e. partially submerged in) the e-liquid aerosol precursor. The wick 311 is formed from a porous wicking material (e.g. a polymer) that draws the e-liquid aerosol precursor from the reservoir 305 into a central region of the wick 311 that is located in the vaporising chamber 325.

[0114] A heater 314 is a configured to heat the central region of the wick 311. The heater 314 includes a resistive heating filament that is coiled around the central region of the wick 311. The wick 311 and the heater 314 generally define a vaporiser, and together with the reservoir 305 act as an active aerosol generator. The vaporiser (i.e. wick 311 and heater 314) and aerosol generating portion 322 are both at least partially located within the airflow passage, with the aerosol generating portion 322 being downstream of the vaporiser.

[0115] So that the consumable component 303 may be supplied with electrical power for activation of the heater 314, the consumable component 303 includes a pair of consumable electrical contacts 313. The consumable electrical contacts 313 are configured for electrical connection to a corresponding pair of electrical supply contacts in the device (not shown). The consumable electrical contacts 313 are electrically connected to the electrical supply contacts (not shown) when the consumable component 303 is engaged with the device. The device includes an electrical power source, for example a battery.

[0116] Figure 3B shows the consumable component 303 of Figure 3A in an activated state. To transition from the deactivated state to the activated state, mouthpiece portion 309 is moved along the central longitudinal axis 350 in an upstream direction towards cartomizer portion 301. The mouthpiece portion 309 is fixed by a collar 308 to the conveying portion 317 of the liquid transfer element 315 and therefore liquid transfer element 315 moves with the mouthpiece portion 309. The mouthpiece portion 309 and liquid transfer element 315 are moved relative to the tank 316.

[0117] When the mouthpiece portion 309 is moved upstream, activation/piercing member 330 contacts and pierces a sealing element in the form of a pierceable membrane extending across the air bleed channel 332 thereby fluidly connecting the vapour flow passage 321 the storage chamber 316. This allows air from the vapour flow passage 321 to enter the storage chamber 316 as aerosol precursor is removed from the storage chamber 316 by the liquid transfer element 315.

[0118] In addition to piercing of the membrane by the piercing member 330, liquid transfer element 315 pushes on, and moves, plug 320 out of the conduit 324 which then allows liquid transfer element 315 to come into contact with the flavoured aerosol precursor stored in the storage chamber 316. The plug 320 may then be unconstrained within the storage chamber, or may be pushed by liquid transfer element 315 into a holding location.

[0119] Once activated, and in use, a user draws (or "sucks", "pulls", or "puffs") on the mouthpiece portion 309 of the consumable component 303, which causes a drop in air pressure at the first outlet aperture 307 and second outlet apertures 400a, 400b, thereby generating air flow through the inlet opening 306, along the first or second flow paths 401, 402 (shown in Figures 4A and 5A) and into the user's mouth out of either the first outlet aperture 307 or the second outlet apertures 400a, 400b as explained later.

[0120] When the heater 314 is activated by passing an electric current through the heating filament in response to the user drawing on the mouthpiece portion 309 (the drawing of air may be detected by a pressure transducer), the e-liquid located in the wick 311 adjacent to the heating filament is heated and vaporised to form a vapour in the vaporising chamber 325. The vapour condenses to form the second (e-liquid) aerosol within the vapour outlet channel 323. The e-liquid aerosol is entrained in an airflow along the vapour flow passage 321 and either along the first flow path 401 to the first outlet aperture 307 or along the second flow path 402 to the second outlet apertures 400a, 400b for inhalation by the user when the user draws on the mouthpiece portion 309.

[0121] The device supplies electrical current to the consumable electrical contacts 313. This causes an electric current flow through the heating filament of the heater 314 and the heating filament heats up. As described, the heating of the heating filament causes vaporisation of

the e-liquid in the wick 311 to form the e-liquid aerosol.

[0122] As discussed below, when the first cap member 404 is in the closed position with the second outlet apertures 400a, 400b blocked (as shown in Figures 5A, 5B and 7), the air flows through the vapour flow passage 321 and along the first flow path where it encounters the aerosol generating portion 322. The constriction of the vapour flow passage 321, at the aerosolisation chamber 319, results in an increase in air velocity and corresponding decrease in air pressure in the airflow in the vicinity of the porous aerosol generating portion 322. The corresponding low pressure and high air velocity region causes the generation of the flavoured aerosol from the porous surface of the aerosol generating portion 322 of the liquid transfer element 315. The flavoured aerosol becomes entrained in the airflow and ultimately is output from the first outlet aperture 307 of the consumable component 303 and into the user's mouth.

[0123] The flavoured aerosol is sized to inhibit pulmonary penetration. The flavoured aerosol is formed of particles with a mass median aerodynamic diameter that is greater than 70 microns. The flavoured aerosol is sized for transmission within at least one of a mammalian oral cavity and a mammalian nasal cavity. The flavoured aerosol is formed by particles having a maximum mass median aerodynamic diameter that is less than 100 microns. Such a range of mass median aerodynamic diameter will produce aerosols which are sufficiently small to be entrained in an airflow caused by a user drawing air through the device and to enter and extend through the oral and or nasal cavity to activate the taste and/or olfactory receptors.

[0124] The e-liquid aerosol generated is sized for pulmonary penetration (i.e. to deliver an active ingredient such as nicotine to the user's lungs). The e-liquid aerosol is formed of particles having a mass median aerodynamic diameter of less than 1 micron. Such sized aerosols tend to penetrate into a human user's pulmonary system, with smaller aerosols generally penetrating the lungs more easily. The e-liquid aerosol may also be referred to as a vapour.

[0125] The size of aerosol formed without heating (in the passive aerosolisation portion) is typically smaller than that formed by condensation of a vapour (formed within the active aerosolisation portion).

[0126] Figures 4A and 4B show a first example of the mouthpiece portion 309 with a mouthpiece cap 403 having a first cap member 404 in the open position.

[0127] The first cap member 404 is pivotally connected to side walls 405 of the mouthpiece portion 309 so as to be pivotable about an axis transverse to the longitudinal direction of the component.

[0128] In the open position, the first cap member 404 is pivoted so that the mouthpiece portion 309 is not enclosed by the first cap member 404. The first cap member 404 simply rests against the mouthpiece portion 309 so that the second outlet apertures 400a, 400b in the side walls 405 of the mouthpiece portion 309 are exposed.

[0129] In this way, second aerosol from the active aerosolisation portion can flow through the mouthpiece portion 309 along the second airflow path 402 to the second outlet apertures 400a, 400b.

[0130] Although the first outlet aperture 307 remains open, the constriction in the first air flow path 401 provided by the aerosol generating portion 322 of the liquid transfer element 317 within the aerosolisation chamber 319, means that the second aerosol flows preferentially along the second air flow path 402. In this way, the user inhales only second (e-liquid) aerosol and no first (flavoured) aerosol.

[0131] Figures 5A and 5B show the first example with the first cap member 404 in the closed position.

[0132] The first cap member 404 is rotated about the transverse axis to the closed position. The first cap member comprises a central portion 406 and opposing side arms 407. The central portion 406 comprises a cap aperture 408. The first cap member 404 is formed of stretchable silicone material so that it can be stretched to form a tight fit over the side walls 405 and the downstream axial end face 409 of the mouthpiece portion. In doing so, the second outlet apertures 400a, 400b in the side walls 405 of the mouthpiece portions are blocked by the side arms 407a, 407b of the first cap member 404. The cap aperture 408 is aligned with the first outlet aperture 307.

[0133] As the second outlet apertures 400a, 400b are blocked (thus blocking the second flow path 402), the e-liquid aerosol is forced to flow along the first flow path 401, picking up flavoured aerosol as it passes through the aerosolisation chamber 319. Thus the user can inhale both e-liquid and flavoured aerosol.

[0134] It can be seen in Figure 5B that the side arms 407 of the first cap member 404 are mounted on pivot pins 410 extending from (and integrally moulded with) with mouthpiece portion 309.

[0135] Figure 6 and 7 show a second example of a component with a mouthpiece cap.

[0136] The mouthpiece cap comprises a first cap member 404 as shown in Figures 4A-5B. In Figure 6, the first cap member 404 is in the open position i.e. not enclosing the mouthpiece portion 309 as shown in Figure 4A and 4B. In Figure 7, the first cap member 404 is in the closed position i.e. enclosing the mouthpiece portion 309 as shown in Figures 5A and 5B.

[0137] The mouthpiece cap 403 further comprises a second cap member 411. The second cap member 411 is pivotally connected to side walls 405 of the mouthpiece portion 309 so as to be pivotable about the same transverse axis (and same pivot pins 410) as the first cap member 404.

[0138] The second cap member 411 is similar to the first cap member 404 and comprises a central portion 406a which fits over the downstream axial end of the mouthpiece portion 309 and side arms 407a which fit over the side walls 405 of the mouthpiece portion 309 when the first cap member 404 is in the open position.

[0139] The central portion 406a of the second cap member 411 is solid and thus blocks the first outlet aperture 307 when the central portion 406a overlies the downstream axial end face of the mouthpiece portion 309 as shown in Figure 6. The side arms 407a each comprise a respective side aperture 412 which is aligned with the respective second outlet apertures when the side arms 407a enclose the side walls 405 of the mouthpiece portion.

[0140] In this way, when the first cap member 404 is in the open position (i.e. is not enclosing the mouthpiece portion), the second cap member is pivoted to enclose the mouthpiece portion such that the first flow path 401 is blocked by the central portion 406a and the second air flow path remains open through alignment of the side apertures 412 with the second outlet apertures 400a, 400b. In this way, e-liquid aerosol from the active aerosolisation portion can flow through the mouthpiece portion 309 along the second air flow path 402 to the second outlet apertures 400a, 400b.

[0141] When the first cap member 404 is rotated about the transverse axis to the closed position (as shown in Figure 7), the second cap member 411 is pivoted away from enclosing the mouthpiece portion 309 to simply rest against it.

[0142] The features disclosed in the foregoing description, or in the following claims, or in the accompanying drawings, expressed in their specific forms or in terms of a means for performing the disclosed function, or a method or process for obtaining the disclosed results, as appropriate, may, separately, or in any combination of such features, be utilised for realising the invention in diverse forms thereof.

[0143] While the invention has been described in conjunction with the exemplary embodiments described above, many equivalent modifications and variations will be apparent to those skilled in the art when given this disclosure. Accordingly, the exemplary embodiments of the invention set forth above are considered to be illustrative and not limiting. Various changes to the described embodiments may be made without departing from the scope of the invention as defined in the claims.

[0144] For the avoidance of any doubt, any theoretical explanations provided herein are provided for the purposes of improving the understanding of a reader. The inventors do not wish to be bound by any of these theoretical explanations.

[0145] Any section headings used herein are for organizational purposes only and are not to be construed as limiting the subject matter described.

[0146] Throughout this specification, including the claims which follow, unless the context requires otherwise, the words "have", "comprise", and "include", and variations such as "having", "comprises", "comprising", and "including" will be understood to imply the inclusion of a stated integer or step or group of integers or steps but not the exclusion of any other integer or step or group of integers or steps.

[0147] It must be noted that, as used in the specification and the appended claims, the singular forms "a," "an," and "the" include plural referents unless the context clearly dictates otherwise. Ranges may be expressed herein as from "about" one particular value, and/or to "about" another particular value. When such a range is expressed, another embodiment includes from the one particular value and/or to the other particular value. Similarly, when values are expressed as approximations, by the use of the antecedent "about," it will be understood that the particular value forms another embodiment. The term "about" in relation to a numerical value is optional and means, for example, +/- 10%.

[0148] The words "preferred" and "preferably" are used herein refer to embodiments of the invention that may provide certain benefits under some circumstances. It is to be appreciated, however, that other embodiments may also be preferred under the same or different circumstances. The recitation of one or more preferred embodiments therefore does not mean or imply that other embodiments are not useful, and is not intended to exclude other embodiments from the scope of the disclosure, or from the scope of the claims.

Claims

1. An aerosol delivery component comprising:

   a first aerosolisation portion configured to generate a first aerosol from a first aerosol precursor;
   a second aerosolisation portion configured to generate a second aerosol from a second aerosol precursor;
   a mouthpiece portion having a first outlet aperture for outlet of the first and second aerosols and at least one second outlet aperture for outlet of the second aerosol; and
   a mouthpiece cap having a first cap member moveable between a closed position in which the at least one second outlet aperture is closed, and an open position in which the at least one second outlet aperture is open.

2. A component according to claim 1 wherein the first aerosolisation portion is downstream of the second aerosolisation portion.

3. A component according to claim 1 or 2 comprising a first flow path extending from the second aerosolisation portion to the first outlet aperture and a second airflow path extending from the second aerosolisation portion to the at least one second outlet aperture.

4. A component according to claim 3 wherein the first aerosolisation portion is in fluid communication with the first flow path.

5. A component according to any one of the preceding claims wherein the first flow path comprises a constriction.

6. A component according to any one of the preceding claims wherein the first cap member is pivotally mounted about a transverse axis perpendicular to the longitudinal axis of the mouthpiece portion.

7. A component according to any one of the preceding claims wherein, in the closed position, the first cap member at least partly encloses the mouthpiece portion.

8. A component according to any one of the preceding claims wherein the first cap member comprises a central portion having a cap aperture and two depending side arms, wherein the cap aperture is aligned with the first outlet aperture in the closed position.

9. A component according to any one of the preceding claims wherein the mouthpiece cap further comprises a second cap member which movable to block the first outlet aperture when the first cap member is in the open position.

10. A component according to claim 9 wherein the second cap member is pivotally-mounted on the mouthpiece portion.

11. A component according to claim 9 or 10 wherein the second cap member comprises a central portion and two depending side arms wherein at least one of the side arms comprises a side aperture for alignment with the at least one second outlet aperture.

12. A component according to any one of the preceding claims wherein the first and/or second cap member(s) are formed of a silicone.

13. A component according to any one of the preceding claims wherein the first aerosolisation portion is a passive aerosolisation portion and the second aerosolisation portion is an active aerosolisation portion.

14. An aerosol delivery system comprising an aerosol delivery component according to any one of the preceding claims and a device comprising a power source.

15. A method of operating an aerosol delivery system comprising inserting an aerosol delivery component according to any one of the preceding claims into a device comprising a power source, moving the first cap member to the open position to select delivery of only the second aerosol through the at least one second outlet aperture or moving the first cap member to the closed position to select delivery of both the first and second aerosols through the first outlet aperture.

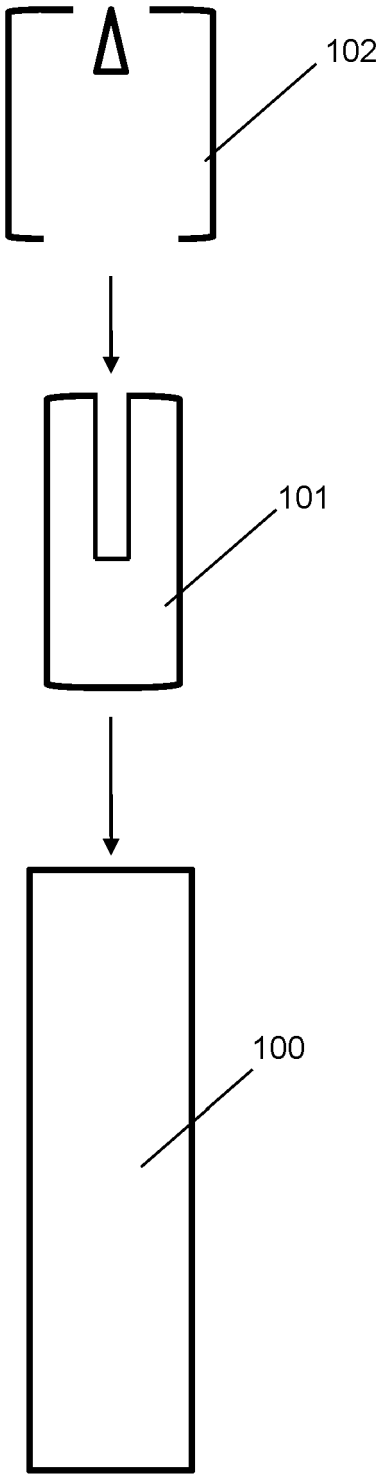

Fig. 1A

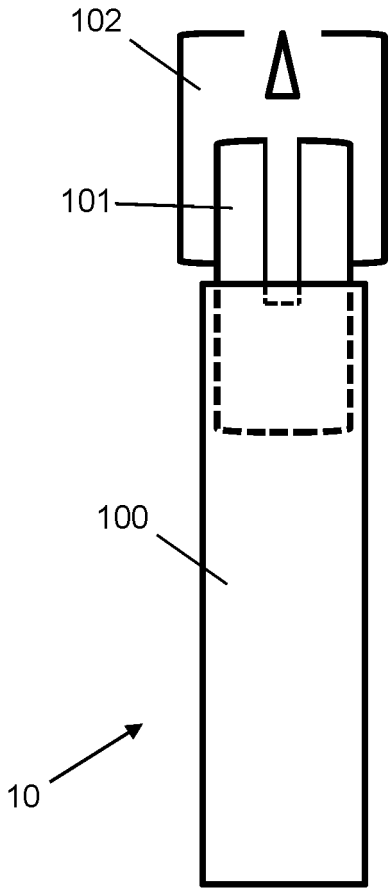

Fig. 1B

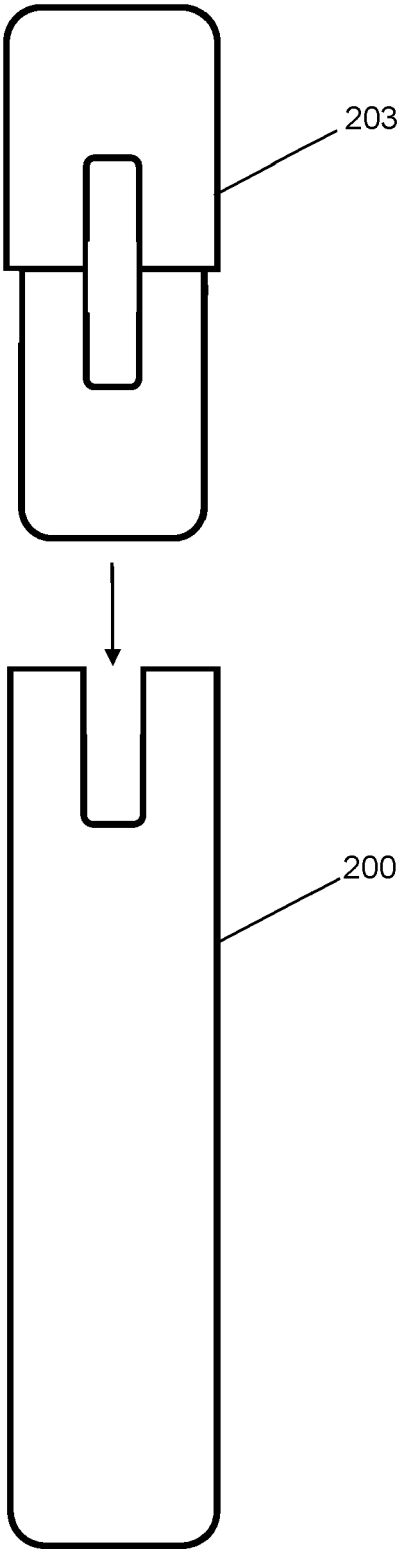

Fig. 2A

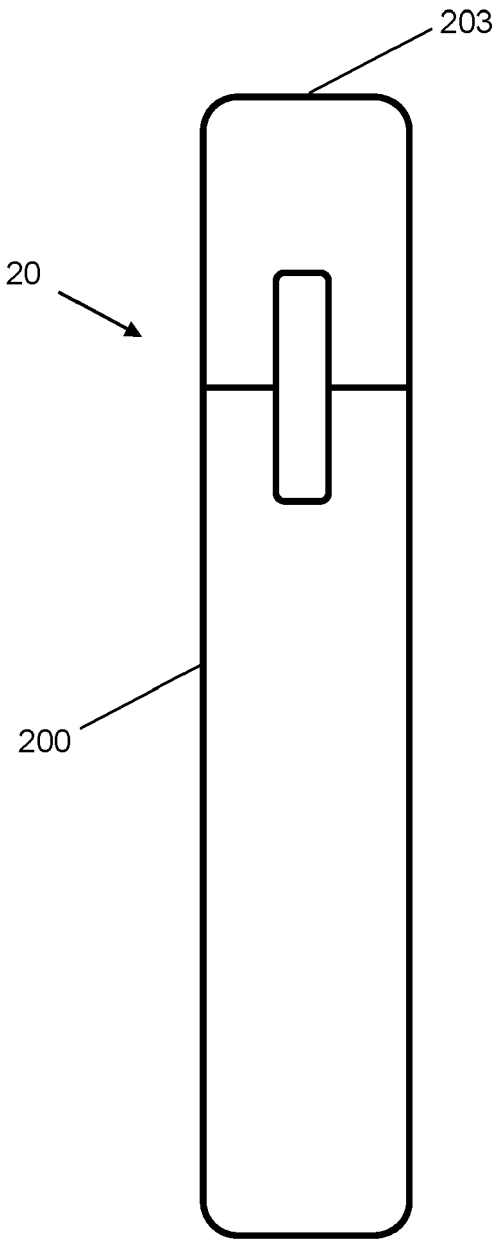

Fig. 2B

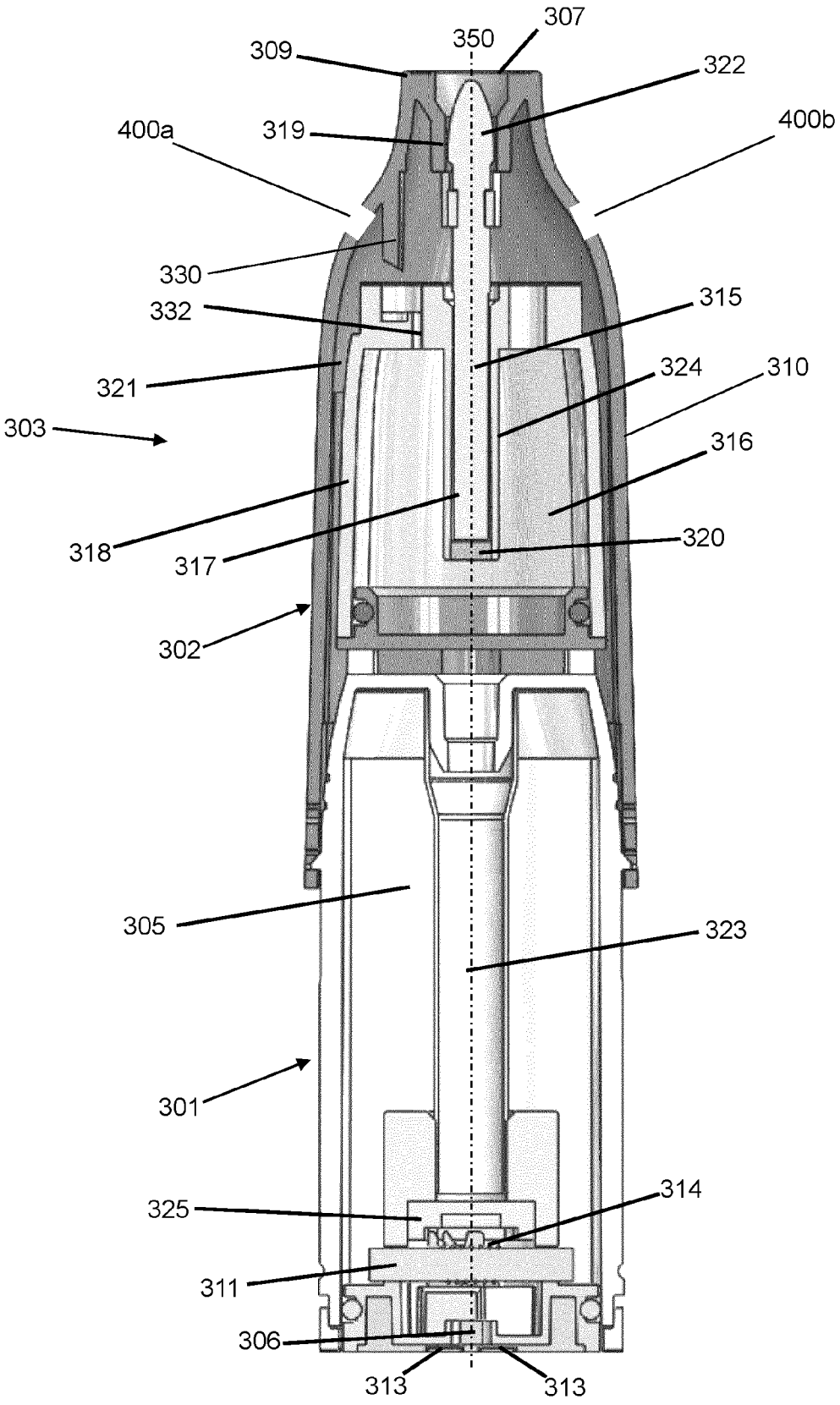
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Fig. 3A

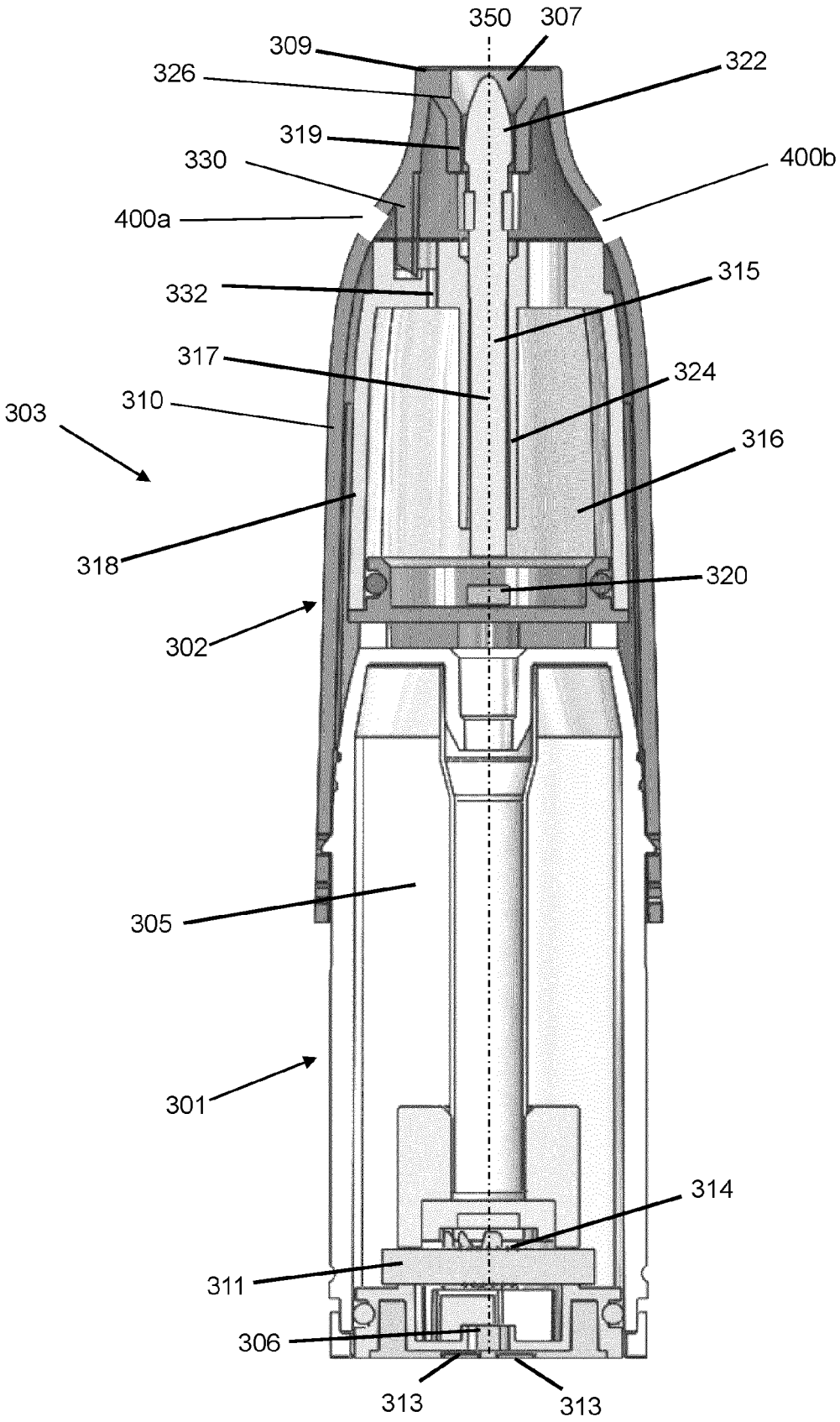
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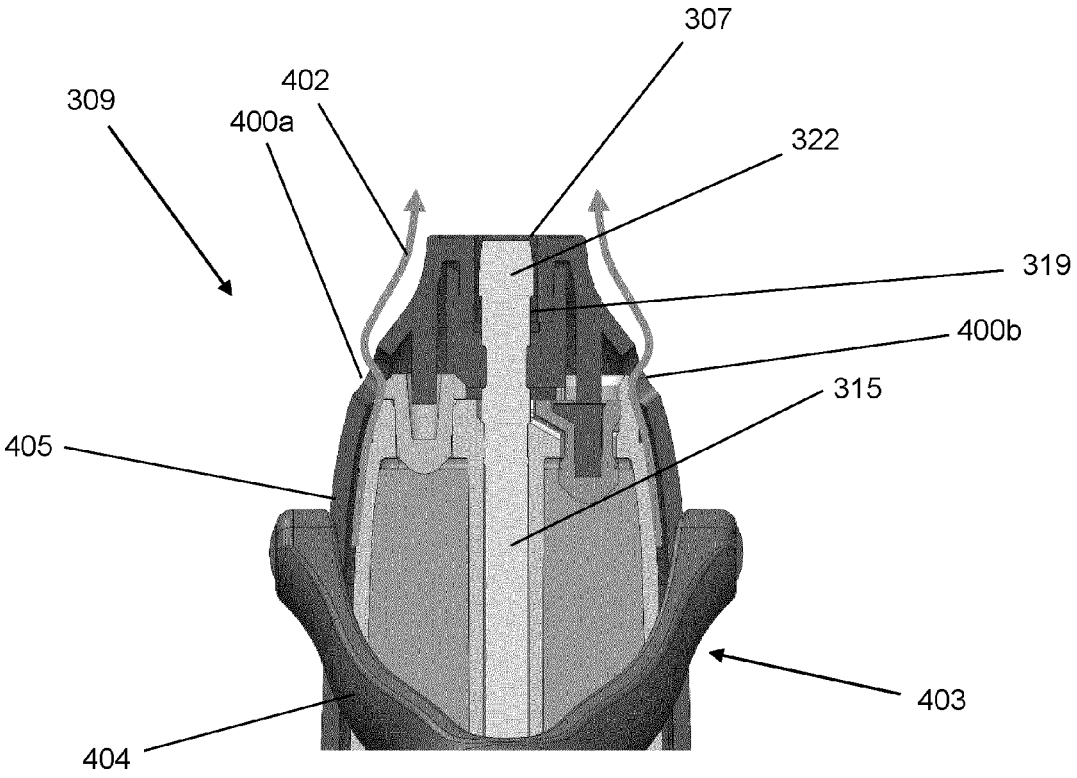
Fig. 3B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404

Fig. 4A

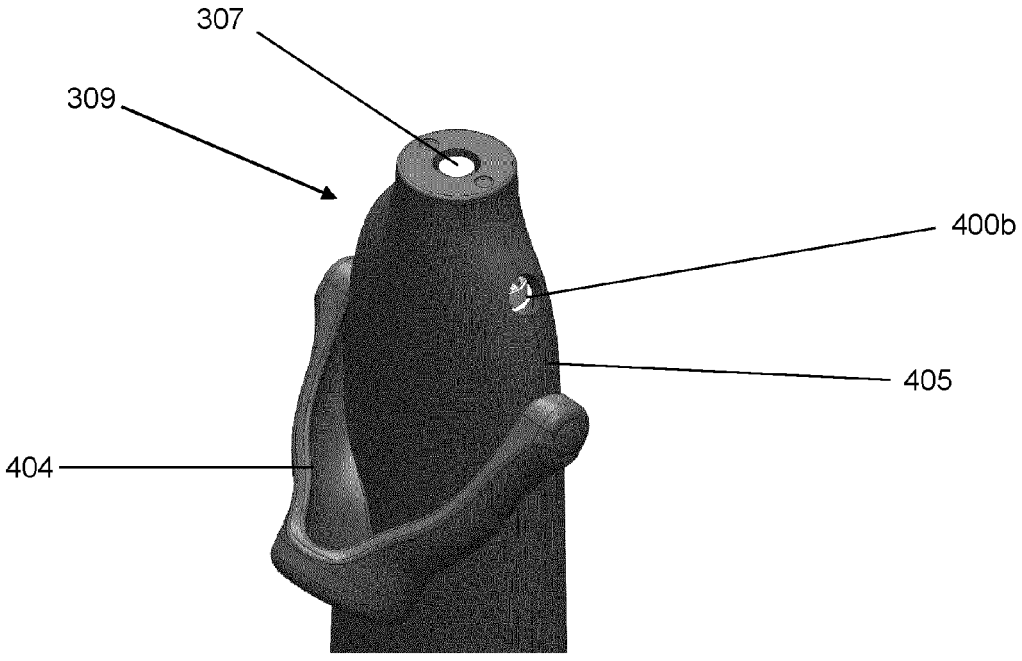
307
309
400b
405
404

Fig. 4B

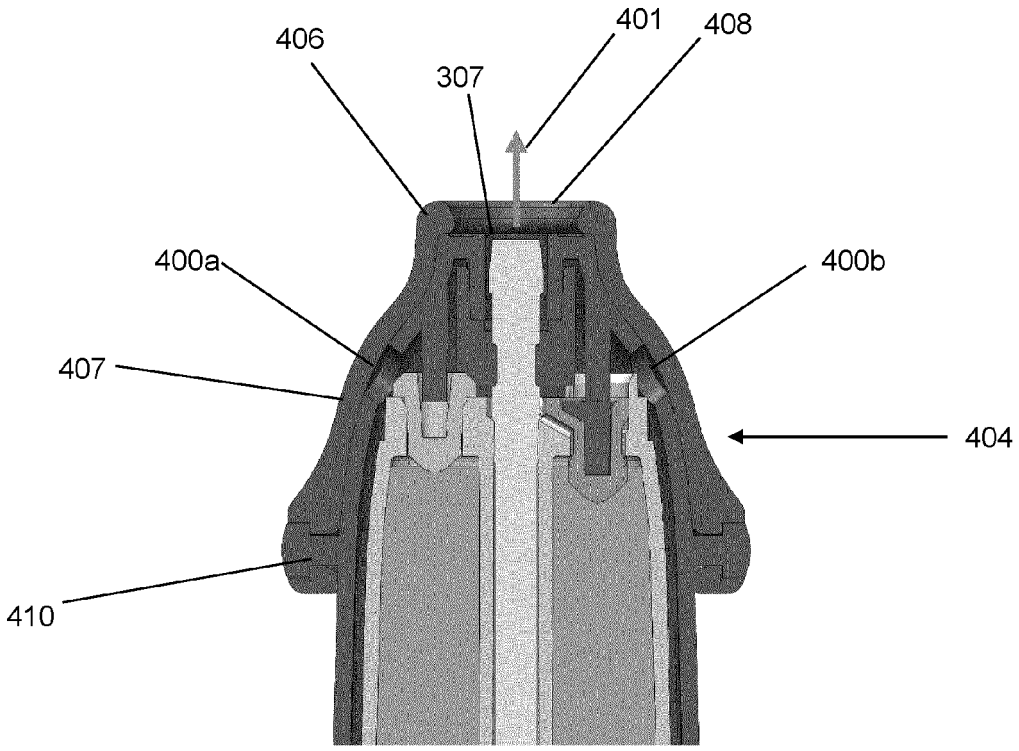

Fig. 5A

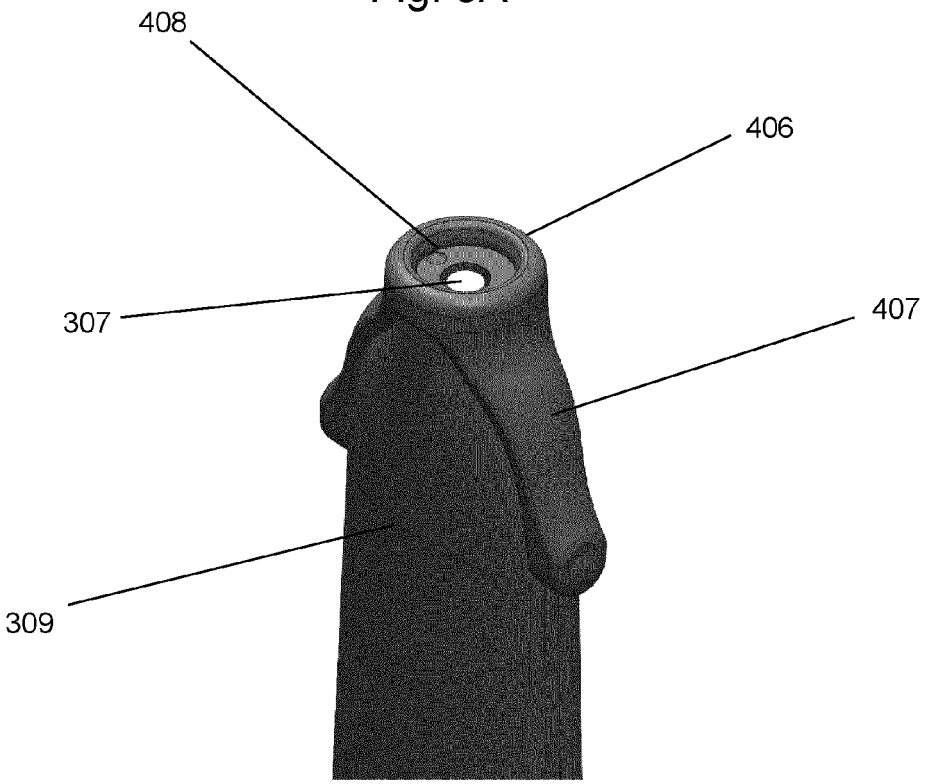

Fig. 5B

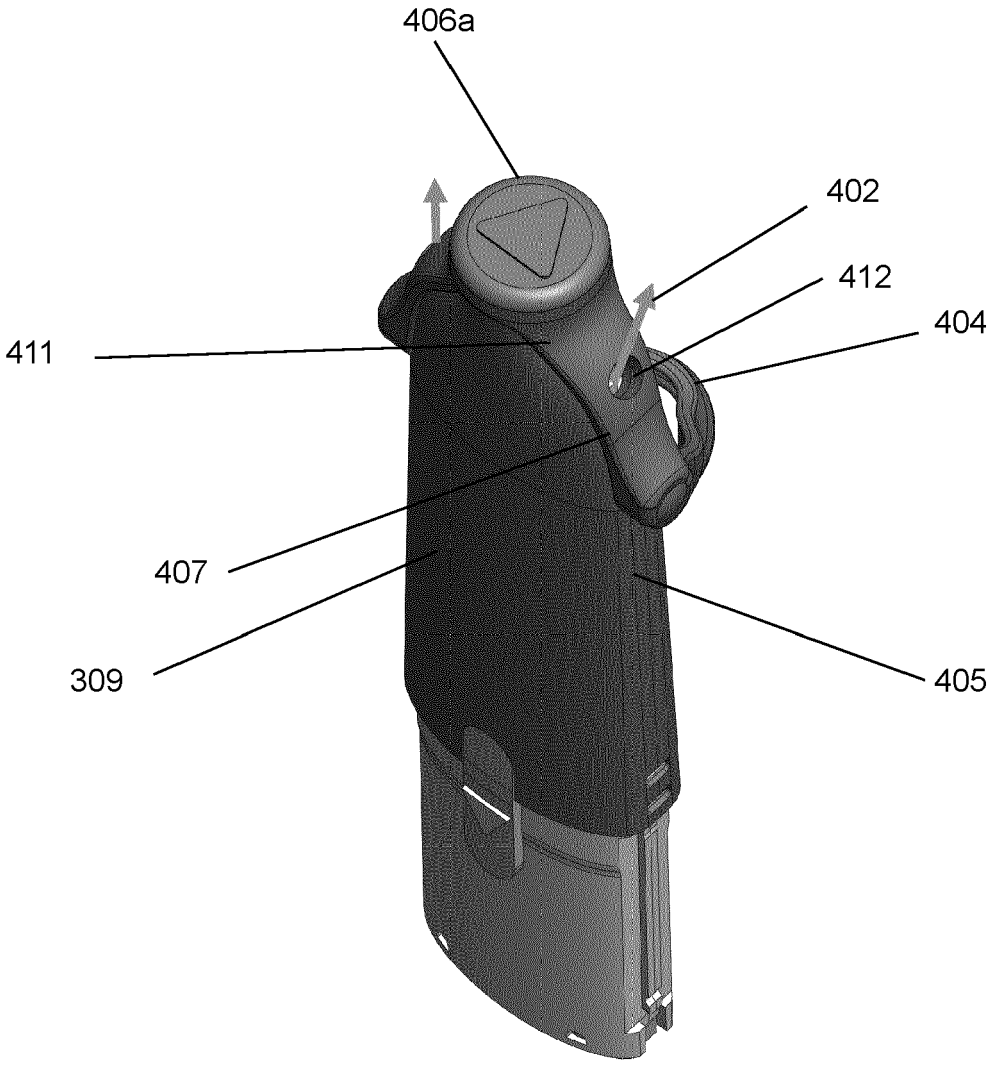

Fig. 6

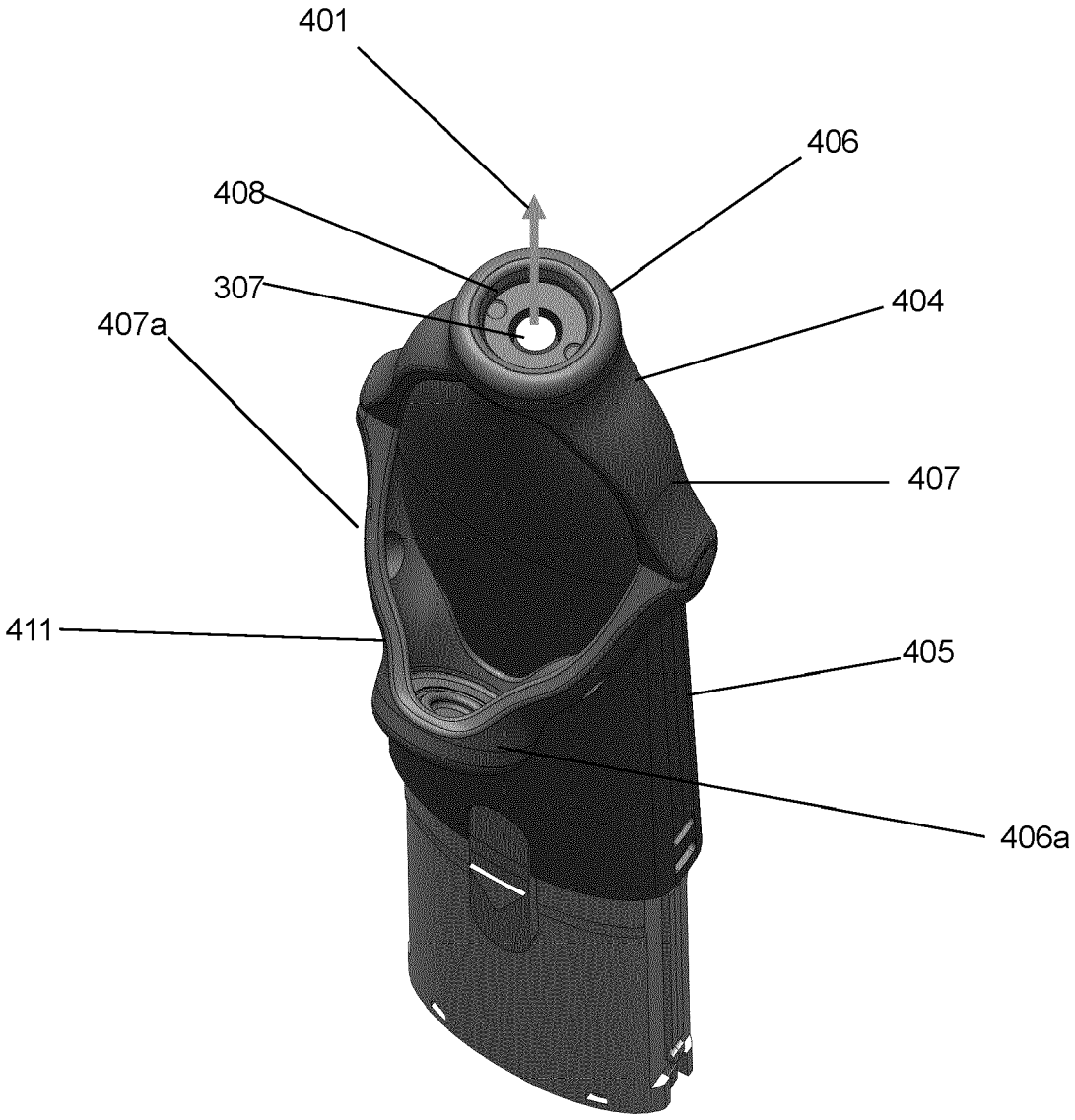

Fig. 7

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EUROPEAN SEARCH REPORT

Application Number
EP 21 19 6056

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A	WO 2015/052192 A1 (JT INT SA [CH]) 16 April 2015 (2015-04-16) * page 3, line 26 - page 4, line 7 * * page 5, line 29 - page 6, line 3 * * page 12, line 8 - page 13, line 20; claims; figures * -----	1-15	
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1 The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	28 February 2022	Marzano Monterosso

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