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CAP ASSEMBLY FOR AEROSOL GENERATING DEVICE

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An aerosol generating device (100) comprising a body (101) having a longitudinal axis and including a guide structure (110); and a cap (120) including a resiliently-deformable restraint having a catch, wherein the cap is rotatable relative to the body about the longitudinal axis between a first orientation and a second orientation, wherein: in a first orientation, the resiliently-deformable
- restraint is undeformed such that the catch is engaged with a catch-receiving portion of the guide structure to thereby retain the cap to the body; and in a second orientation, the resiliently-deformable restraint is deformed such that the catch is disengaged from the catch-receiving portion of the guide structure to thereby release the cap from the body.

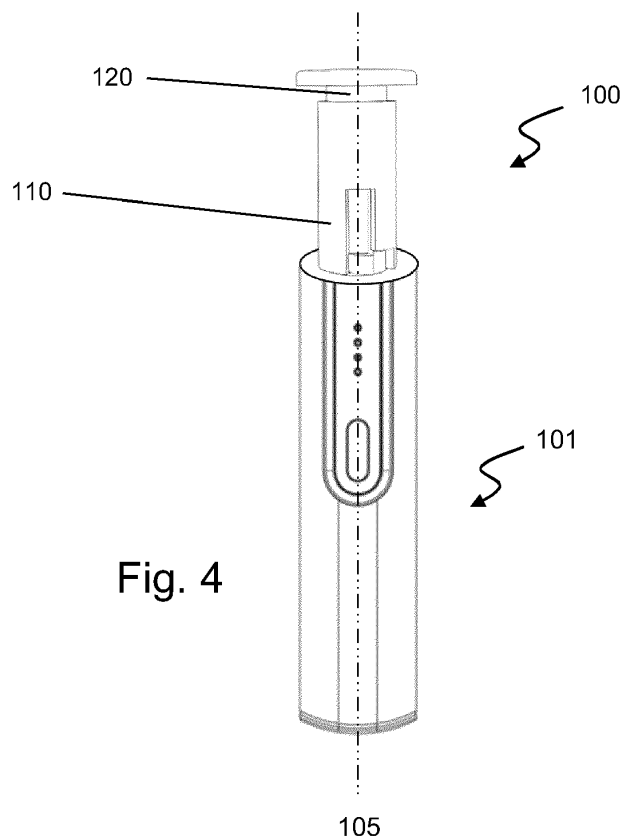


Fig. 4

Description

FIELD

[0001] The present disclosure relates to a cap assembly for an aerosol generating device.

BACKGROUND

[0002] A typical aerosol generating device may comprise a power supply, an aerosol generating unit that is driven by the power supply, an aerosol precursor, which in use is aerosolised by the aerosol generating unit to generate an aerosol, and a delivery system for delivery of the aerosol to a user.

[0003] A drawback with known aerosol generating devices is that debris and residue leftover from the heating of an aerosol precursor may remain in the device after a user has finished using the device which may lead to decreased performance of the device.

[0004] Hence, in spite of the effort already invested in the development of aerosol generating devices further improvements are desirable.

SUMMARY

[0005] According to a first aspect, there is provided an aerosol generating device that comprises: a body having a longitudinal axis and including a guide structure; and a cap including a resiliently-deformable restraint having a catch, wherein the cap is rotatable relative to the body about the longitudinal axis between a first orientation and a second orientation, wherein: in a first orientation, the resiliently-deformable restraint is undeformed such that the catch is engaged with a catch-receiving portion of the guide structure to thereby retain the cap to the body; and in a second orientation, the resiliently-deformable restraint is deformed such that the catch is disengaged from the catch-receiving portion of the guide structure to thereby release the cap from the body.

[0006] In this way, debris and residue produced from a consumable may be more easily removed from the aerosol generating device. Also in this way, the cap may be more easily removed from the body of the aerosol generating device. Also in this way, it may be easier to clear debris from and clean the aerosol generating device. In some examples, the guide structure extends along the longitudinal axis to the extent that the longitudinal axis of the body is the longitudinal axis of the guide structure.

[0007] In some examples, the cap includes a consumable-receiving cavity. In this way, a consumable may be inserted into the cap. In some examples, when in the second orientation, the resiliently-deformable restraint is deformed into the consumable-receiving cavity. In this way, removal of the cap may be prevented if a consumable is located within the consumable-receiving cavity. Also in this way, debris located within the consumable-receiving cavity may be ejected from the consumable-

receiving cavity via contact with the resiliently-deformable restraint when the cap is removed. This may prevent a build-up of debris within the consumable-receiving cavity which may improve reliability and cleanliness of the aerosol generating device.

[0008] In some examples, the body includes a heater. In some examples, a portion of the heater protrudes into the consumable-receiving cavity. In this way, when a consumable is inserted into the consumable-receiving cavity it may engage with the heater such that the consumable may be heated by the heater to produce an aerosol for inhalation by a user. In some examples, the heater is rod-shaped. In this way, the heater may better engage with a consumable. In some examples, the heater is blade-shaped. In this way, the heater may better engage with a consumable. In some examples, the heater is elongate and has a longitudinal axis. In some examples, the heater produces an asymmetric heating profile about the longitudinal axis.

[0009] In some examples, rotation of the cap from the first orientation to the second orientation causes the guide structure to urge the catch out of engagement with the catch-receiving portion such that the resiliently-deformable restraint deforms into the consumable-receiving cavity. In other words, the guide structure makes physical contact with the catch to cause the resiliently-deformable restraint to deform into the consumable-receiving cavity. In this way, the cap may be removed from the body with a simple twisting gesture which may make the aerosol generating device easier to clean as it may require less physical and mental effort from a user to remove the cap via an intuitive rotation movement. Removing the cap may allow a cleaning instrument to be inserted into the guide structure such that residue can be removed from the guide structure. Removing the cap from the aerosol generating device may allow the cap to be cleaned more easily.

[0010] In some examples, when in the first orientation, the catch is moveably engaged within the catch-receiving portion of the guide structure such that the cap can move relative to the guide structure. In other words, the cap is still retained to the body by the guide structure but the cap may still undergo limited or constrained movement relative to the guide structure. In this way, the cap may be permitted to move within the guide structure. This may assist a user in engaging a consumable with the heater. For example, a consumable may be inserted into the cap and then the cap may be lowered onto the heater such that the heater engages with the consumable. This may allow the heater to be more precisely positioned within the consumable, which may improve the production of an aerosol via uniform heating of the consumable. In this context, the term moveably engaged may be understood to mean that the cap is retained to the guide structure and hence the body but can still undergo relative movement to the guide structure. An example of relative movement is relative translational movement in a longitudinal direction. An example of relative movement is relative

rotational movement in a circumferential direction. It may be understood that engagement of the catch with the catch-receiving portion prevents complete removal and hence separation of the cap from the guide structure and therefore body. The catch may be engaged with the catch-receiving portion and simultaneously be free to move within the catch-receiving portion. Non-limiting examples of a catch-receiving portion include a channel, a groove, an indent, a depression, a cavity, an aperture, a cut-out, a slot and a recess. In some examples, the catch may be retained within the catch-receiving portion via geometric constraints when the resiliently-deformed restraint is in an undeformed state. In other words, the catch-receiving portion may define a cut-out. The catch can move freely within the cut-out, the movement of the catch within the cut-out being confined by one or more peripheral surfaces and/or edges of the cut-out. In some examples, there is friction between the catch and the catch-receiving portion such that the catch does not move unless urged to do so. For example, via user interaction with the cap. In this way, the cap may be prevented from inadvertently moving relative to the body.

[0011] In some examples, the catch-receiving portion of the guide structure is a channel. In this way, ease and freedom of movement of the catch within the catch-receiving portion may be improved. In some examples, the channel extends in a longitudinal direction of the guide structure. In some examples, the channel extends in a circumferential direction of the guide structure. In some examples, the channel includes multiple sections. In some examples, each section has a different orientation. The channel sections may be connected to one another such that the catch can move freely between sections. For example, a first section may be orientated in a longitudinal direction of the guide structure and a second section may be orientated in a circumferential direction of the guide structure. The first section and the second section may be orthogonal. In this way, movement of the catch within the channel may be restricted to certain directions relative to the guide structure. Also in this way, manufacture of the guide structure may be facilitated. A channel may be understood to be the cut-out within the guide structure that may or may not pass through a wall of the guide structure.

[0012] In some examples, the channel includes a longitudinal section in which the catch can move in a longitudinal direction of the guide structure. In other words, the catch may move in the longitudinal section such that the cap can undergo movement along a central axis of the guide structure. In this way, the cap may move in a longitudinal direction of the guide structure to facilitate the removal of debris and residue from the consumable-receiving cavity. Also in this way, the cap may facilitate the engagement of a consumable with the heater. Also in this way, the cap may facilitate the disengagement of a consumable with the heater.

[0013] In some examples, the channel includes a circumferential section in which the catch can move in a

circumferential direction of the guide structure. In other words, the catch may move within the circumferential section such that the cap can undergo rotation about a central axis of the guide structure. In this way, the cap may move in a circumferential direction of the guide structure that may allow the cap to be retained in a particular longitudinal position relative to the guide structure and hence the body whilst being free to rotate about a central axis of the guide structure. Examples of longitudinal positions include: a first position where the heater is engaged with the consumable-receiving cavity; and a second position where the heater is disengaged with the consumable-receiving cavity. In this context, the heater being engaged with the consumable-receiving cavity may be understood to mean that a portion of the heater is located within the consumable-receiving cavity. In some examples, the guide structure is elongate and has a central axis in the longitudinal direction. In some examples, the cap is elongate and has a central axis in the longitudinal direction. In some examples, the central axis of the cap is concentric with the central axis of the guide structure. In other words, in some examples the central axis of the cap is aligned with the central axis of the guide structure.

[0014] In some examples, movement of the catch within the longitudinal section allows the cap to move in a longitudinal direction relative to the body between a lowered position and a raised position. In this way, the cap may be moved between the lowered position and the raised position by a user which may assist the user in engaging and/or disengaging a consumable from the heater. In this context, a longitudinal direction relative to the body may be understood to mean movement along the longitudinal axis of the body. In some examples, the body is elongate and has a central axis in the longitudinal direction. In this context, a lowered position may be understood to be one where the cap is proximal to the heater and a raised position may be understood to be one where the cap is distal to the heater. In other words, in the lowered position the cap is in closer proximity to the heater than in the raised position. In this way, the proximity of a consumable to the heater may be more easily controlled and regulated by a user.

[0015] In some examples, the cap is rotatable relative to the body about the longitudinal axis to a third orientation where the catch is engaged with a retaining portion of the guide structure such that the cap is retained in the lowered position. In this way, a user may be able to lock the cap in the lowered position when the aerosol generating device is not being used which may improve usability. In this context, engaged with a retaining portion may be understood to mean that the catch makes retaining contact with the retaining portion of the guide structure. For example, the catch may include an upper face that makes arresting contact with an engagement face of the guide structure. In some examples, the retaining portion of the guide structure is a channel. In some examples, the length of the channel forming the catch-re-

ceiving portion of the guide structure is longer in a longitudinal direction than the length of the channel forming the retaining portion of the guide structure. In some examples, the retaining portion is the circumferential section of the channel.

[0016] In some examples, the resiliently-deformable restraint includes a resiliently-deformable finger. In some examples, the catch is located at a distal end of the resiliently-deformable finger. In this way, movement of the catch due to deformation of the resiliently-deformable finger may be maximised which may mean less effort is required by a user to remove the cap from the body. In some examples, the cap includes a cap body wherein the resiliently-deformable restraint is attached to the cap body. In some examples, the resiliently-deformable finger is attached to the cap body at an opposite end to the catch. In this way, movement of the catch due to deformation of the resiliently-deformable finger may be maximised.

[0017] In some examples, the cap body includes a flange. The flange may extend around the consumable-receiving aperture. The flange may extend radially outward from the longitudinal axis. The flange may extend radially outward from the consumable-receiving aperture. The flange may form a skirt. The skirt may be cylindrical. The skirt may extend downwards towards the baseplate. The skirt may surround the consumable-receiving cavity. In this way, a user may more easily grip the cap, for example, when removing the cap. Also in this way, the skirt may provide additional insulation for the consumable-receiving cavity. This may reduce the energy requirements of the heater.

[0018] In some examples, the cap includes two resiliently-deformable restraints, each respective resiliently-deformable restraint being located on respective opposing sides of the consumable-receiving cavity. In this way, retention of the cap to the body may be improved. In some examples, the cap includes a plurality of resiliently-deformable restraints. In this way, retention of the cap to the body may be improved. When the cap includes a plurality of resiliently-deformable restraints, it should be understood that each resiliently-deformable restraint has an associated catch-receiving portion of the guide structure. Parts of this description referring to interactions between the resiliently-deformable restraint and the catch-receiving portion should be understood to be equally applicable to any resiliently-deformable restraint and its corresponding catch-receiving portion.

[0019] In some examples, when in the lowered position, a portion of the heater protrudes into the consumable-receiving cavity. In this way, a consumable may be engaged with the heater by inserting it into the consumable-receiving cavity and moving the cap from the raised position to the lowered position. In this way, a consumable may be partly disengaged from the heater by moving the cap from the lowered position to the raised position.

[0020] In some examples, when in the raised position, the heater does not protrude into the consumable-receiving

cavity. In this way, a consumable may be fully disengaged from the heater by moving the cap from the lowered position to the raised position. In some examples, when in the raised position, a portion of the heater protrudes into the consumable-receiving cavity. In this way, the size of guide structure may be reduced which may allow the aerosol generating device to be more compact.

[0021] In some examples, the catch is tapered in a circumferential direction to facilitate deformation of the resiliently-deformable restraint when the cap is rotated from the first orientation to the second orientation. In this context, tapered in a circumferential direction may be understood to mean that the cross-section of the catch in a circumferential direction decreases in a circumferential direction. In other words, the catch may have a relatively shorter radial length at a first circumferential position and a relatively longer radial length at a second circumferential position with the radial length varying between the two circumferential positions. In this way, rotation of the cap relative to the guide structure may cause the radially shorter section of the catch to make contact with the guide structure such that rotating the cap further relative to the guide structure causes the radial variation of the catch to urge the catch and hence the resiliently-deformable restraint into the consumable receiving cavity.

[0022] In some examples, a circumferential section of the guide structure is tapered in the circumferential direction to facilitate deformation of the resiliently-deformable restraint when the cap is rotated from the first orientation to the second orientation. It will be understood that this achieves a similar effect to circumferentially tapering the catch but is simply achieved in a different way.

[0023] In some examples, the catch is tapered in a circumferential direction, such that the widest portion of the catch faces towards a terminal end of the circumferential section of the channel. In this way, the cap may only be removed from the guide structure by rotating it in a direction relative to the guide structure such that the catch moves in a circumferential direction away from the terminal end of the circumferential section of the channel such that the tapered catch can be urged out of disengagement with the catch receiving portion of the guide structure. In this context, a terminal end of the circumferential section of the channel may be understood to mean an end where the circumferential section of the channel terminates. In examples where the circumferential section meets the longitudinal section, the terminal end of the circumferential section may be understood to be an end of the circumferential section distal to the longitudinal section.

[0024] In some examples, the cap includes an outer shell. In some examples, a portion of the consumable-receiving cavity is located within the outer shell. In other words, the outer shell may be understood to form an outer part of the cap that at least partially encloses inner parts of the cap. The resiliently-deformable restraint is an example of an inner part of the cap. In this way, a user may be able to more easily grip the cap by making contact

with the outer shell. This may make it easier for a user to remove the cap from the body. This may also prevent a user being burned by thermally insulating the user-contactable surface of the cap from the heater. In some examples, the outer shell has a non-cylindrical cross-section in the longitudinal direction. In this way, ease of rotation of the cap between different orientations may be facilitated. The outer shell may be the skirt extending from the flange.

[0025] In some examples, the cap includes a baseplate with a heater-receiving aperture. In this way, the cap may facilitate removal of debris produced from the heating of a consumable within the cap. When the cap is removed from the aerosol generating device, the heater may pass through the heater-receiving aperture such that debris remaining on the heater are scraped off by the heater-receiving aperture. In some examples, the baseplate is located at an end of the cap proximal to the heater. In some examples, the baseplate forms a base of the consumable-receiving cavity. In some examples, the catch is located proximal to the baseplate.

[0026] The preceding summary is provided for purposes of summarizing some examples to provide a basic understanding of aspects of the subject matter described herein. Accordingly, the above-described features should not be construed to narrow the scope or spirit of the subject matter described herein in any way. Moreover, the above and/or proceeding examples may be combined in any suitable combination to provide further examples, except where such a combination is clearly impermissible or expressly avoided. Other features, aspects, and advantages of the subject matter described herein will become apparent from the following text and the accompanying drawings.

BRIEF DESCRIPTION OF THE FIGURES

[0027] Aspects, features and advantages of the present disclosure will become apparent from the following description of examples in reference to the appended drawings in which like numerals denote like elements.

Fig. 1 is a block system diagram showing an example aerosol generating apparatus;

Fig. 2 is a block system diagram showing an example implementation of the apparatus of Fig. 1, where the aerosol generating apparatus is configured to generate aerosol from a solid precursor;

Fig. 3 is a schematic diagram showing an example implementation of the apparatus of Fig. 1;

Fig. 4 is a schematic diagram showing an aerosol generating device according to the present invention;

Fig. 5 is a rendering of the cap of the aerosol gen-

erating device of Fig. 4 isolated from other components;

Fig. 6 is a rendering of the guide structure of the aerosol generating device of Fig. 4 isolated from other components;

Fig. 7 shows the cap and the guide structure of the aerosol generating device of Fig. 4 isolated from other components, the cap is shown in a first position relative to the guide structure;

Fig. 8 shows the cap and the guide structure of Fig. 7, the cap is shown in a second position relative to the guide structure;

Fig. 9 shows the cap and the guide structure of Fig. 7 the cap is shown in a third position relative to the guide structure;

Fig. 10 is a section view showing the cap and the guide structure of Fig. 7, the cap is shown in the position relative to the guide structure shown in Fig. 9;

Fig. 11 is section view showing the cap and the guide structure of Fig. 7 the cap is shown in a fourth position relative to the guide structure; and

Fig. 12 is a section view showing the cap and the guide structure of Fig. 7, the cap is shown in a fifth position relative to the guide structure.

DETAILED DESCRIPTION OF EMBODIMENTS

[0028] Before describing several examples implementing the present disclosure, it is to be understood that the present disclosure is not limited by specific construction details or process steps set forth in the following description and accompanying drawings. Rather, it will be apparent to those skilled in the art having the benefit of the present disclosure that the systems, apparatuses and/or methods described herein could be embodied differently and/or be practiced or carried out in various alternative ways.

[0029] Unless otherwise defined herein, scientific and technical terms used in connection with the presently disclosed inventive concept(s) shall have the meanings that are commonly understood by those of ordinary skill in the art, and known techniques and procedures may be performed according to conventional methods well known in the art and as described in various general and more specific references that may be cited and discussed in the present specification.

[0030] Any patents, published patent applications, and non-patent publications mentioned in the specification are hereby incorporated by reference in their entirety.

[0031] All examples implementing the present disclo-

sure can be made and executed without undue experimentation in light of the present disclosure. While particular examples have been described, it will be apparent to those of skill in the art that variations may be applied to the systems, apparatus, and/or methods and in the steps or in the sequence of steps of the methods described herein without departing from the concept, spirit, and scope of the inventive concept(s). All such similar substitutions and modifications apparent to those skilled in the art are deemed to be within the spirit, scope, and concept of the inventive concept(s) as defined by the appended claims.

[0032] The use of the term "a" or "an" in the claims and/or the specification may mean "one," as well as "one or more," "at least one," and "one or more than one." As such, the terms "a," "an," and "the," as well as all singular terms, include plural referents unless the context clearly indicates otherwise. Likewise, plural terms shall include the singular unless otherwise required by context.

[0033] The use of the term "or" in the present disclosure (including the claims) is used to mean an inclusive "and/or" unless explicitly indicated to refer to alternatives only or unless the alternatives are mutually exclusive. For example, a condition "A or B" is satisfied by any of the following: A is true (or present) and B is false (or not present), A is false (or not present) and B is true (or present), and both A and B are true (or present).

[0034] As used in this specification and claim(s), the words

"comprising," "having," "including," or "containing" (and any forms thereof, such as "comprise" and "comprises," "have" and "has," "includes" and "include," or "contains" and "contain," respectively) are inclusive or open-ended and do not exclude additional, unrecited elements or method steps.

[0035] Unless otherwise explicitly stated as incompatible, or the physics or otherwise of the embodiments, examples, or claims prevent such a combination, the features of examples disclosed herein, and of the claims, may be integrated together in any suitable arrangement, especially ones where there is a beneficial effect in doing so. This is not limited to only any specified benefit, and instead may arise from an "ex post facto" benefit. This is to say that the combination of features is not limited by the described forms, particularly the form (e.g. numbering) of example(s), embodiment(s), or dependency of claim(s). Moreover, this also applies to the phrase "in one embodiment," "according to an embodiment," and the like, which are merely a stylistic form of wording and are not to be construed as limiting the following features to a separate embodiment to all other instances of the same or similar wording. This is to say, a reference to 'an,' 'one,' or 'some' embodiment(s) may be a reference to any one or more, and/or all embodiments, or combination(s) thereof, disclosed. Also, similarly, the reference to "the" embodiment may not be limited to the immediately preceding embodiment. Further, all references to one or more embodiments or examples are to be con-

strued as non-limiting to the claims.

[0036] The present disclosure may be better understood in view of the following explanations, wherein the terms used that are separated by "or" may be used interchangeably:

As used herein, an **"aerosol generating apparatus"** (or **"electronic(e)-cigarette"**) may be an apparatus configured to deliver an aerosol to a user for inhalation by the user. The apparatus may additionally/alternatively be referred to as a "smoking substitute apparatus", if it is intended to be used instead of a conventional combustible smoking article. As used herein a combustible "smoking article" may refer to a cigarette, cigar, pipe or other article, that produces smoke (an aerosol comprising solid particulates and gas) via heating above the thermal decomposition temperature (typically by combustion and/or pyrolysis). An aerosol generated by the apparatus may comprise an aerosol with particle sizes of 0.2 to 7 microns, or less than 10 microns, or less than 7 microns. This particle size may be achieved by control of one or more of: heater temperature; cooling rate as the vapour condenses to an aerosol; flow properties including turbulence and velocity. The generation of aerosol by the aerosol generating apparatus may be controlled by an input device. The input device may be configured to be user-activated, and may for example include or take the form of an actuator (e.g. actuation button) and/or an air-flow sensor.

[0037] Each occurrence of the aerosol generating apparatus being caused to generate aerosol for a period of time (which may be variable) may be referred to as an **"activation"** of the aerosol generating apparatus. The aerosol generating apparatus may be arranged to allow an amount of aerosol delivered to a user to be varied per activation (as opposed to delivering a fixed dose of aerosol), e.g. by activating an aerosol generating unit of the apparatus for a variable amount of time, e.g. based on the strength/duration of a draw of a user through a flow path of the apparatus (to replicate an effect of smoking a conventional combustible smoking article).

[0038] The aerosol generating apparatus may be portable. As used herein, the term **"portable"** may refer to the apparatus being for use when held by a user.

[0039] As used herein, an **"aerosol generating system"** may be a system that includes an aerosol generating apparatus and optionally other circuitry/components associated with the function of the apparatus, e.g. one or more external devices and/or one or more external components (here "external" is intended to mean external to the aerosol generating apparatus).

[0040] As used herein, an "external device" and "external component" may include one or more of a: a charging device, a mobile device (which may be connected to the aerosol generating apparatus, e.g. via a wireless or wired connection); a networked-based computer (e.g. a remote server); a cloud-based computer; any other server system.

[0041] An example aerosol generating system may be

a system for managing an aerosol generating apparatus. Such a system may include, for example, a mobile device, a network server, as well as the aerosol generating apparatus.

[0042] As used herein, an **"aerosol"** may include a suspension of precursor, including as one or more of: solid particles; liquid droplets; gas. Said suspension may be in a gas including air. An aerosol herein may generally refer to/include a vapour. An aerosol may include one or more components of the precursor.

[0043] As used herein, a **"precursor"** may include one or more of a: liquid; solid; gel; loose leaf material; other substance. The precursor may be processed by an aerosol generating unit of an aerosol generating apparatus to generate an aerosol. The precursor may include one or more of: an active component; a carrier; a flavouring. The active component may include one or more of nicotine; caffeine; a cannabidiol oil; a non-pharmaceutical formulation, e.g. a formulation which is not for treatment of a disease or physiological malfunction of the human body. The active component may be carried by the carrier, which may be a liquid, including propylene glycol and/or glycerine. The term "flavouring" may refer to a component that provides a taste and/or a smell to the user. The flavouring may include one or more of: Ethyl-vanillin (vanilla); menthol, Isoamyl acetate (banana oil); or other. The precursor may include a substrate, e.g. reconstituted tobacco to carry one or more of the active component; a carrier; a flavouring.

[0044] As used herein, a **"storage portion"** may be a portion of the apparatus adapted to store the precursor. It may be implemented as fluid-holding reservoir or carrier for solid material depending on the implementation of the precursor as defined above.

[0045] As used herein, a **"flow path"** may refer to a path or enclosed passageway through an aerosol generating apparatus, e.g. for delivery of an aerosol to a user. The flow path may be arranged to receive aerosol from an aerosol generating unit. When referring to the flow path, upstream and downstream may be defined in respect of a direction of flow in the flow path, e.g. with an outlet being downstream of an inlet.

[0046] As used herein, a **"delivery system"** may be a system operative to deliver an aerosol to a user. The delivery system may include a mouthpiece and a flow path.

[0047] As used herein, a **"flow"** may refer to a flow in a flow path. A flow may include aerosol generated from the precursor. The flow may include air, which may be induced into the flow path via a puff by a user.

[0048] As used herein, a **"puff"** (or **"inhale"** or **"draw"**) by a user may refer to expansion of lungs and/or oral cavity of a user to create a pressure reduction that induces flow through the flow path.

[0049] As used herein, an **"aerosol generating unit"** may refer to a device configured to generate an aerosol from a precursor. The aerosol generating unit may include a unit to generate a vapour directly from the pre-

cursor (e.g. a heating system or other system) or an aerosol directly from the precursor (e.g. an atomiser including an ultrasonic system, a flow expansion system operative to carry droplets of the precursor in the flow without using electrical energy or other system). A plurality of aerosol generating units to generate a plurality of aerosols (for example, from a plurality of different aerosol precursors) may be present in an aerosol generating apparatus.

[0050] As used herein, a **"heating system"** may refer to an arrangement of at least one heating element, which is operable to aerosolise a precursor once heated. The at least one heating element may be electrically resistive to produce heat from the flow of electrical current there-through. The at least one heating element may be arranged as a susceptor to produce heat when penetrated by an alternating magnetic field. The heating system may be configured to heat a precursor to below 300 or 350 degrees C, including without combustion.

[0051] As used herein, a **"consumable"** may refer to a unit that includes a precursor. The consumable may include an aerosol generating unit, e.g. it may be arranged as a cartomizer. The consumable may include a mouthpiece. The consumable may include an information carrying medium. With liquid or gel implementations of the precursor, e.g. an e-liquid, the consumable may be referred to as a "capsule" or a "pod" or an "e-liquid consumable". The capsule/pod may include a storage portion, e.g. a reservoir or tank, for storage of the precursor. With solid material implementations of the precursor, e.g. tobacco or reconstituted tobacco formulation, the consumable may be referred to as a "stick" or "package" or "heat-not-burn consumable". In a heat-not-burn consumable, the mouthpiece may be implemented as a filter and the consumable may be arranged to carry the precursor. The consumable may be implemented as a dosage or pre-portioned amount of material, including a loose-leaf product. As used herein, an **"information carrying medium"** may include one or more arrangements for storage of information on any suitable medium. Examples include: a computer readable medium; a Radio Frequency Identification (RFID) transponder; codes encoding information, such as optical (e.g. a bar code or QR code) or mechanically read codes (e.g. a configuration of the absence or presents of cut-outs to encode a bit, through which pins or a reader may be inserted).

[0052] As used herein **"heat-not-burn"** (or **"HNB"** or **"heated precursor"**) may refer to the heating of a precursor, typically tobacco, without combustion, or without substantial combustion (i.e. localised combustion may be experienced of limited portions of the precursor, including of less than 5% of the total volume).

[0053] Referring to Fig. 1, an example aerosol generating apparatus 1 includes a power supply 2, for supply of electrical energy. The apparatus 1 includes an aerosol generating unit 4 that is driven by the power supply 2. The power supply 2 may include an electric power supply in the form of a battery and/or an electrical connection to

an external power source. The apparatus 1 includes a precursor 6, which in use is aerosolised by the aerosol generating unit 4 to generate an aerosol. The apparatus 2 includes a delivery system 8 for delivery of the aerosol to a user.

[0054] Electrical circuitry (not shown in figure 1) may be implemented to control the interoperability of the power supply 4 and aerosol generating unit 6.

[0055] In variant examples, which are not illustrated, the power supply 2 may be omitted since, e.g. an aerosol generating unit implemented as an atomiser with flow expansion may not require a power supply.

[0056] Fig. 2 shows an implementation of the apparatus 1 of Fig. 1, where the aerosol generating apparatus 1 is configured to generate aerosol by a heat not-burn process.

[0057] In this example, the apparatus 1 includes a device body 50 and a consumable 70.

[0058] In this example, the body 50 includes the power supply 4 and a heating system 52. The heating system 54 includes at least one heating element 54. The body may additionally include any one or more of electrical circuitry 56, a memory 58, a wireless interface 60, one or more other components 62.

[0059] The electrical circuitry 56 may include a processing resource for controlling one or more operations of the body 50, e.g. based on instructions stored in the memory 58.

[0060] The wireless interface 60 may be configured to communicate wirelessly with an external (e.g. mobile) device, e.g. via Bluetooth.

[0061] The other component(s) 62 may include an actuator, one or more user interface devices configured to convey information to a user and/or a charging port, for example.

[0062] The body 50 is configured to engage with the consumable 70 such that the at least one heating element 54 of the heating system 52 penetrates into the solid precursor 6 of the consumable. In use, a user may activate the aerosol generating apparatus 1 to cause the heating system 52 of the body 50 to cause the at least one heating element 54 to heat the solid precursor 6 of the consumable (without combusting it) by conductive heat transfer, to generate an aerosol which is inhaled by the user.

[0063] Fig. 3 shows an example implementation of the aerosol generating device 1 of Fig. 2.

[0064] As depicted in Fig. 3, the consumable 70 is implemented as a stick, which is engaged with the body 50 by inserting the stick into an aperture at a top end 53 of the body 50, which causes the at least one heating element 54 of the heating system 52 to penetrate into the solid precursor 6.

[0065] The consumable 70 includes the solid precursor 6 proximal to the body 50, and a filter distal to the body 50. The filter serves as the mouthpiece of the consumable 70 and thus the apparatus 1 as a whole. The solid precursor 6 may be a reconstituted tobacco formulation.

[0066] In this example, the at least one heating element

54 is a rod-shaped element with a circular transverse profile. Other heating element shapes are possible, e.g. the at least one heating element may be blade-shaped (with a rectangular transverse profile) or tube-shaped (e.g. with a hollow transverse profile).

[0067] In this example, the body 50 includes a cap 51. In use the cap 51 is engaged at a top end 53 of the body 50. Although not apparent from Fig. 3, the cap 51 is moveable relative to the body 50. In particular, the cap 51 is slidable and can slide along a longitudinal axis of the body 50.

[0068] The body 50 also includes an actuator 55 on an outer surface of the body 50. In this example, the actuator 55 has the form of a button.

[0069] The body 50 also includes a user interface device configured to convey information to a user. Here, the user interface device is implemented as a plurality of lights 57, which may e.g. be configured to illuminate when the apparatus 1 is activated and/or to indicate a charging state of the power supply 4. Other user interface devices are possible, e.g. to convey information haptically or audibly to a user. The body may also include an airflow sensor which detects airflow in the aerosol generating apparatus 1 (e.g. caused by a user inhaling through the consumable 70). This may be used to count puffs, for example.

[0070] In this example, the consumable 70 includes a flow path which transmits aerosol generated by the at least one heating element 54 to the mouthpiece of the consumable.

[0071] In this example, the aerosol generating unit 4 is provided by the above-described heating system 52 and the delivery system 8 is provided by the above-described flow path and mouthpiece of the consumable 70.

[0072] The following discussion will refer to an aerosol generating apparatus 100 with reference to Figs. 4 to 12 but it should be understood that certain components are not visible in every figure due to perspective and, in some cases, for ease of understanding.

[0073] Referring to Figs. 4 to 12 and specifically to Fig. 4, an aerosol generating device 100 comprises an elongate body 101 having a longitudinal axis 105. The elongate body 101 includes a guide structure 110. The guide structure 110 is located at a top end of the elongate body 101. The guide structure 110 is elongate along the longitudinal axis 105. The guide structure 110 extends in the direction of the longitudinal axis 105. The guide structure 110 is configured to receive a cap 120. The cap 120 is removeable to the extent that the cap 120 can be engaged and disengaged from the guide structure 110 via movement of the cap 120 relative to the guide structure 110. This movement includes twisting of the cap 120 relative to the guide structure 110. The twisting of the cap 120 may be in the rotational sense about the longitudinal axis 105. In other words, the cap 120 is separable from the guide structure 110 and hence from the elongate body 101. The elongate body 101 includes a rod-shaped heater (not shown) that protrudes from the top end of the

elongate body 101 into the guide structure 110. This means movement of the cap 120 along the longitudinal axis 105 allows relative movement of the heater into and out of the cap 120. Thus, removal of the cap 120 from the elongate body 101 may facilitate access to, and cleaning of, the heater and the area around the heater.

[0074] Referring to both Fig. 4 as well as Figs. 5 and 6, the cap 120 includes a first resiliently-deformable restraint 122. The first resiliently-deformable restraint 122 includes a first catch 123. The cap 120 includes a second resiliently-deformable restraint 124. The second resiliently-deformable restraint 124 includes a second catch 125. The cap 120 is elongate. When the cap 120 is engaged with the guide structure 110, the longitudinal axis of the cap 120 is aligned with the longitudinal axis 105 of the elongate body 101. In other words, when the cap 120 is engaged with the guide structure 110, the longitudinal axes of the cap 120, the guide structure 110 and the elongate body 101 are all approximately aligned. The first resiliently-deformable restraint 122 is flexible. The second resiliently-deformable restraint 124 is flexible.

[0075] The cap 120 is rotatable relative to the elongate body 101 about the longitudinal axis 105 between a first orientation (see Fig. 8), a second orientation (see Figs. 11 and 12) and a third orientation (see Fig. 7). In the first orientation, the first resiliently-deformable restraint 122 is undeformed such that the first catch 123 is engaged with a first catch-receiving portion 113 of the guide structure 110 such that the cap 120 is retained to the elongate body 101. In the first orientation, the second resiliently-deformable restraint 124 is undeformed such that the second catch 125 is engaged with a second catch-receiving portion 115 of the guide structure 110 such that the cap 120 is retained to the elongate body 101.

[0076] In the second orientation, the first resiliently-deformable restraint 122 is deformed such that the first catch 123 is disengaged from the first catch-receiving portion 113 of the guide structure 110 such that the cap 120 is disengageable from the guide structure 110 such that the cap 120 can be removed from the elongate body 101. In the second orientation, the second resiliently-deformable restraint 124 is deformed such that the second catch 125 is disengaged from the second catch-receiving portion 115 of the guide structure 110 such that the cap 120 is disengageable from the guide structure 110 such that the cap 120 can be removed from the elongate body 101.

[0077] In the third orientation, the cap 120 is retained in a lowered position relative to the elongate body 101. In other words, in the third orientation, the cap 120 and the guide structure 110 interlock such that longitudinal sliding of the cap 120 within the guide structure 110 is prevented.

[0078] For completeness, referring specifically to Fig. 5, the cap 120 includes a first resiliently-deformable restraint 122. The first resiliently-deformable restraint 122 has a first catch 123. The cap 120 also includes a second resiliently-deformable restraint 124 (not visible in Fig. 5).

The second resiliently-deformable restraint 124 has a second catch 125. The cap 120 includes a consumable-receiving cavity 127. The consumable-receiving cavity 127 has a substantially cylindrical shape. The first resiliently-deformable restraint 122 is located on the opposing side of the consumable-receiving cavity 127 to the second resiliently-deformable restraint 124. In other words, the circumferential angle between the first resiliently-deformable restraint 122 and the second resiliently-deformable restraint 124 is approximately 180 degrees.

[0079] The first resiliently-deformable restraint 122 is an elongate plastic member. The first resiliently-deformable restraint 122 is formed in the side wall of the consumable-receiving cavity 127. The first resiliently-deformable restraint 122 extends parallel to a central axis 121 of the consumable-receiving cavity 127.

[0080] The second resiliently-deformable restraint 124 is an elongate plastic member. The second resiliently-deformable restraint 124 is formed in the side wall of the consumable-receiving cavity 127. The second resiliently-deformable restraint 124 extends parallel to a central axis 121 of the consumable-receiving cavity 127. The cap 120 includes a consumable-receiving aperture 126. The consumable-receiving aperture 126 is an entrance to the consumable-receiving cavity 127. A consumable 70 can be inserted through the consumable-receiving aperture 126 into the consumable-receiving cavity 127. The consumable 70 can be inserted into the consumable-receiving cavity 127 along the direction of the central axis 121. When the cap 120 is engaged with the guide structure 110, the central axis 121 of the consumable-receiving cavity 127 is approximately aligned with the longitudinal axis 105.

[0081] The first resiliently-deformable restraint 122 includes a first resiliently-deformable finger 1221. The second resiliently-deformable restraint 124 includes a second resiliently-deformable finger 1241. In Fig. 5, only the first resiliently-deformable restraint 122 and corresponding first resiliently-deformable finger 1221 are visible. The first catch 123 is located at a distal end of the first resiliently-deformable finger 1221. The second catch 125 is located at a distal end of the second resiliently-deformable finger 1241. The cap 120 includes a cap body 1200. The first resiliently-deformable finger 1221 is connected to the cap body 1200 at an opposite end of the first resiliently-deformable finger 1221 to the first catch 123. The second resiliently-deformable finger 1241 is connected to the cap body 1200 at an opposite end of the second resiliently-deformable finger 1241 to the second catch 125.

[0082] The cap 120 is integrally formed. In this context, the term integrally formed may be understood to mean that the cap 120 consists of a single piece of material. In other words, the first resiliently-deformable restraint 122, the second resiliently-deformable restraint 124 and the cap body 1200 are one continuous piece of material. The cap 120 is plastic. The cap body 1200 includes a flange 1201. The flange 1201 extends radially outwards from

the consumable-receiving aperture 126.

[0083] The cap 120 includes a baseplate 128. The baseplate 128 includes a heater-receiving aperture 129 which is not visible in Fig. 5. The heater-receiving aperture 129 is aligned with the heater. The heater can pass through the heater-receiving aperture 129 into the consumable-receiving cavity 127 as the cap 120 is moved between a raised position (see Figs. 9 and 10) and a lowered position (see Figs. 7 and 8) relative to the guide structure 110. The heater-receiving aperture 129 is aligned with the longitudinal axis 105. The heater-receiving aperture 129 is aligned with the central axis 121.

[0084] The first catch 123 is located adjacent to the baseplate 128. The second catch 125 is located adjacent to the baseplate 128. The baseplate 128 is a base of the consumable-receiving cavity 127. The first catch 123 is tapered along a circumferential direction of the cap 120. The second catch 125 is tapered along a circumferential direction of the cap 120. The first catch 123 and the second catch 125 are both tapered in the same circumferential direction of the cap 120.

[0085] The consumable-receiving cavity 127 is delimited by a cylindrical extension of material forming part of the cap body 1200. The cylindrical extension of material may be understood to be a wall of the consumable-receiving cavity 127. The first resiliently-deformable restraint 122 is formed in the cylindrical extension of material. The second resiliently-deformable restraint 124 is formed in the cylindrical extension of material. This cylindrical extension of material terminates with the baseplate 128. The first catch 123 protrudes radially beyond the outer surface of the cylindrical extension of material such that the first catch 123 can engage with the guide structure 110 when the cap 120 is engaged with the guide structure 110. The second catch 125 protrudes radially beyond the outer surface of the cylindrical extension of material such that the second catch 125 can engage with the guide structure 110 when the cap 120 is engaged with the guide structure 110.

[0086] Referring specifically to Fig. 6, the guide structure 110 includes a first catch-receiving portion 113 for receiving the first catch 123. The guide structure 110 includes a second catch-receiving portion 115 for receiving the second catch 125. The first catch-receiving portion 113 is on the opposing side of the guide structure 110 to the second catch-receiving portion 115. In other words, the circumferential angle between the first catch-receiving portion 113 and the second catch-receiving portion 115 is approximately 180 degrees.

[0087] The first catch-receiving portion 113 is positioned relative to the second catch-receiving portion 115 such that the first catch 123 and the second catch 125 can respectively engage with the first catch-receiving portion 113 and the second catch-receiving portion 115 when the cap 120 is engaged with the guide structure 110. The first catch-receiving portion 113 of the guide structure 110 is a first channel. The second catch-receiving portion 115 of the guide structure 110 is a second

channel.

[0088] The guide structure 110 is integrally formed. The guide structure 110 is plastic. In this context, the term integrally formed may be understood to mean that the guide structure 110 consists of a single piece of material.

[0089] The first channel includes a first circumferential section 112 extending along the circumferential direction of the guide structure 110. The first channel includes a first longitudinal section 116 extending along the longitudinal direction of the guide structure 110. The second channel includes a second circumferential section 114 extending in the circumferential direction of the guide structure 110. The second channel includes a second longitudinal section 117 extending in the longitudinal direction of the guide structure 110. The longitudinal direction of the guide structure 110 extends along the longitudinal axis 105. The circumferential direction of the guide structure 110 extends around the longitudinal axis 105. In other words, the circumferential direction of the guide structure 110 encircles the longitudinal axis 105.

[0090] The first longitudinal section 116 is longer than the first circumferential section 112 in the longitudinal direction of the guide structure 110. The second longitudinal section 117 is longer than the second circumferential section 114 in the longitudinal direction of the guide structure 110. The first channel and the second channel are geometrically similar to the extent that each channel has the same shape. In other words, the guide structure 110 has rotational symmetry order two about the longitudinal axis 105.

[0091] The guide structure 110 is substantially a cylindrical tube. One end of the cylindrical tube is attached to a top end of the elongate body 101 of the consumable generating device 100 (not shown in Fig. 6). The first catch-receiving portion 113 is a cut-out in or through the surface of the cylindrical tube to form the first channel. The second catch receiving portion 115 is a cut-out in or through the surface of the cylindrical tube to form the second channel. The first longitudinal section 116 joins to the first circumferential section 112 at right angles. In other words, the first channel is "L" shaped. In other words, the first channel has two orthogonal sections. The second longitudinal section 117 joins to the second circumferential section 114 at right angles. In other words, the second channel is "L" shaped. In other words, the second channel has two orthogonal sections.

[0092] When the first and second catches 123, 125 are engaged with the respective first and second catch receiving portions 113, 115, the first catch 123 can move within both the first circumferential section 112 and the first longitudinal section 116 and the second catch 125 can move within both the second circumferential section 114 and the second longitudinal section 117 to facilitate respective rotational and longitudinal movement of the cap 120 relative to the guide structure 110. When the cap 120 is engaged with the guide structure 110, sliding movement of the first catch 123 in the first longitudinal

section 116 and corresponding sliding movement of the second catch 125 in the second longitudinal section 117 allows the cap 120 to move in a longitudinal direction relative to the guide structure 110 between a lowered position and a raised position. In other words, when the cap 120 is engaged with the guide structure 110, the cap 120 can slide within the guide structure 110 to allow the cap 120 to move between different positions relative to the guide structure 110.

[0093] Referring specifically to Fig. 7, the cap 120 is shown retained in the lowered position relative to the guide structure 110. A portion of the heater (not shown in Fig. 7) protrudes into the consumable-receiving cavity 127. The heater may engage with a consumable located in the consumable-receiving cavity 127. The first catch 123 is located within the first circumferential section 112 (not visible in Fig. 7). The second catch 125 is located within the second circumferential section 114. The cap 120 is retained in the lowered position because the first catch 123 makes arresting contact with the part of the guide structure 110 that longitudinally delimits the first circumferential section 112. The cap 120 is retained in the lowered position because the second catch 125 makes arresting contact with the part of the guide structure 110 that longitudinally delimits the second circumferential section 114.

[0094] In Fig. 7, the cap 120 is in the third orientation. The first catch 123 is engaged with a first retaining portion of the guide structure 110 such that the cap 120 is retained in the lowered position relative to the guide structure 110. The second catch 125 is engaged with a second retaining portion of the guide structure 110 such that the cap 120 is retained in the lowered position relative to the guide structure 110. The first retaining portion of the guide structure 110 is the first circumferential section 112. The second retaining portion of the guide structure 110 is the second circumferential section 114. The cap 120 can rotate such that the first catch 123 slides within the first circumferential section 112. The cap 120 can rotate such that the second catch 125 slides within the second circumferential section 114. In other words, the first circumferential section 112 and the second circumferential section 114 allow the cap 120 to be rotated relative to the guide structure 110. The circumferential extent of the first circumferential section 112 and second circumferential section 114 constrain the rotational movement of the cap 120 relative to the guide structure 110.

[0095] Referring specifically to Fig. 8, the cap 120 is also shown in the lowered position relative to the guide structure 110 but compared to Fig. 7, the cap 120 has been rotated. The first catch 123 (not shown in Fig. 8) is located in the portion of the first channel where the first longitudinal section 116 intersects the first circumferential section 112. In other words, the first catch 123 is positioned where the first longitudinal section 116 meets the first circumferential section 112. The second catch 125 is located in the portion of the second channel where the second longitudinal section 117 intersects the second

circumferential section 114. In other words, the second catch 125 is positioned where the second longitudinal section 117 meets the second circumferential section 114. In this position, the cap 120 may be rotated back into the position shown in Fig. 7 to retain the cap 120 in the lowered position, be lifted into the raised position shown in Fig. 9 or be rotated further to deform the first resiliently-deformable restraint 122 and to deform the second resiliently-deformable restraint 124 such that the first catch 123 and the second catch 125 respectively disengage from the first channel and the second channel such that the cap 120 can be lifted up and removed from the guide structure 110.

[0096] Referring specifically to Fig. 9 and Fig. 10, the cap 120 is shown in the raised position relative to the guide structure 110. The first longitudinal section 116 and the second longitudinal section 117 allow the cap 120 to be lifted relative to the guide structure 110. The extent of the first longitudinal section 116 and second longitudinal section 117 constrain the longitudinal movement of the cap 120 relative to the guide structure 110. The first catch 123 is located at a distal end of the first longitudinal section 116 with respect to the first circumferential section 112. The second catch 125 is located at a distal end of the second longitudinal section 117 with respect to the second circumferential section 114. In the rotation orientation shown in Fig. 9, the cap 120 cannot be further raised relative to the guide structure 110. The first catch 123 makes arresting contact with the part of the guide structure 110 that delimits the longitudinal end of the first longitudinal section 116 distal from the baseplate 128. The second catch 125 makes arresting contact with the part of the guide structure 110 that delimits the longitudinal end of the second longitudinal section 117 distal from the baseplate 128.

[0097] Referring specifically to Fig. 11 and Fig. 12, rotation of the cap 120 relative to the guide structure 110 causes the guide structure 110 to urge the first catch 123 out of engagement with the first longitudinal section 116 (not shown in Fig. 11) and the second catch 125 out of engagement with the second longitudinal section 117 (not shown in Fig. 11) such that the first resiliently-deformable restraint 122 and the second resiliently-deformable restraint 124 both deform into the consumable-receiving cavity 127. The first catch 123 has a wedge shape. The second catch 125 has a wedge shape. When the narrow end of each wedge-shaped catch 123, 125 is respectively pushed into the vertical end face of the respective channel, the wedge-shape causes each catch 123, 125 to be pushed into the consumable-receiving cavity 127. The pushing of each catch 123, 125 causes each respective resiliently-deformable finger, 1221, 1241 to respectively bend under strain. Each catch 123, 125 is then located outside its respective channel within the consumable-receiving cavity 127. The cap 120 can thus be completely removed from the guide structure 110. When the cap 120 is removed from the guide structure 110, each resiliently-deformable restraint 122, 124 resil-

iently returns to its unstrained, generally straight, shape. The resiliently-deformable restraints 122, 124 may be referred to as arms.

[0098] In the orientation of the cap 120 relative to the guide structure 110 shown in Fig. 11 and Fig. 12, the deformation of the first resiliently-deformable restraint 122 and the second resiliently-deformable restraint 124 allows the cap 120 to be disengaged from the guide structure 110 to the extent that it can be removed from the elongate body 101 and hence from the aerosol generating device 100.

[0099] Fig. 11 shows the cap 120 having just been rotated into the second orientation from the orientation shown in Fig. 9 and Fig. 10. The orientation of the cap 120 shown in Fig. 9 and Fig. 10 is the first orientation as referred to previously. The cap 120 is in the raised position but now the first catch 123 and the second catch 125 have been respectively urged out of the first longitudinal section 116 and the second longitudinal section 117 due to the respective circumferential tapering of the first catch 123 and the second catch 125. The first catch 123 and the second catch 125 have been impinged upon by the guide structure 110 leading to respective bending of the first resiliently-deformable restraint 122 and the second resiliently-deformable restraint 124 into the consumable-receiving cavity 127. This causes the respective upper surfaces of the first catch 123 and the second catch 125 to disengage with the respective portions of the guide structure 110 delimiting the respective first longitudinal section 116 and the second longitudinal section 117 such that the cap 120 can be raised past the raised position and removed from the guide structure 110.

[0100] The first-resiliently deformable restraint 122 and the second resiliently-deformable restraint 124 do not bend into the path of the heater-receiving aperture 129 extending in the longitudinal axis 105 such that bending of the first resiliently-deformable restraint 122 and the second resiliently-deformable restraint 124 into the consumable-receiving cavity 127 is not prohibited by the presence of the heater through the heater-receiving aperture 129 into the consumable-receiving cavity 127 when the cap 120 is in the lowered position relative to the guide structure 110.

[0101] The circumferential tapering of the first catch 123 and the second catch 125 only allows the first catch 123 and the second catch 125 to be respectively disengaged from the first channel and the second channel of the guide structure 110 via rotation of the cap 120 in one circumferential direction relative to the guide structure 110. When a user tries to rotate the cap 120 relative to the guide structure 110 in the opposite circumferential direction, the respective broader section of each of the first catch 123 and the second catch 125 each make arresting contact with the part of the guide structure 110 that delimits either: the first longitudinal section 116 and the second longitudinal section 117 if the cap 120 is not in the lowered position; or the first circumferential section 112 and the second circumferential section 114 if the cap

120 is in the lowered position.

[0102] As discussed, the first catch 123 is wedge shaped, with a narrower portion and wider portion, circumferentially disposed from one another. The first catch 123 thereby tapers along a first circumferential direction / in a first circumferential sense. The first circumferential section 112 extends from the first longitudinal section 116 in the first circumferential direction / circumferential sense. As such, the wider portion of the wedge-shaped first catch 123 may be brought in engagement / arresting contact with an end of the first circumferential section 112 distal from the meeting point of the first circumferential section 112 and the first longitudinal section 116.

[0103] As discussed, the second catch 125 is also wedge shaped, with a narrower portion and wider portion, circumferentially disposed from one another. The second catch 125 thereby tapers along a first circumferential direction / in a first circumferential sense. The second circumferential section 114 extends from the second longitudinal section 117 in the first circumferential direction / circumferential sense. As such, the wider portion of the wedge-shaped second catch 125 may be brought in engagement / arresting contact with an end of the second circumferential section 114 distal from the meeting point of the second circumferential section 114 and the second longitudinal section 117.

[0104] The first catch 123 and the second catch 125 are wedge shaped in the same circumferential sense as one another. In other words, the first catch 123 and second catch 125 are both tapered along a first circumferential direction / in a first circumferential sense.

[0105] Although not depicted, to reinsert the cap 120 into the guide structure 110, the first resiliently-deformable restraint 122 and the second resiliently-deformable restraint 124 may each be deformed into the consumable-receiving cavity 127 to prevent a respective bottom surface of the first catch 123 and the second catch 125 making arresting contact with the upper circumferential wall of the guide structure 110. Once the cap 120 has been inserted sufficiently far into the guide structure 110, the first catch 123 and the second catch 125 can respectively re-engage with first catch receiving portion and second catch receiving portion. The first catch 123 and the second catch 125 may respectively re-engage with either the first longitudinal section 116 and the second longitudinal section 117 or the first circumferential section 112 and the second circumferential section 114 depending on the rotational orientation of the cap 120 relative to the guide structure 110 when the cap 120 is reinserted.

Claims

1. An aerosol generating device comprising:

- a body having a longitudinal axis and including
- a guide structure; and
- a cap including a resiliently-deformable restraint

having a catch, wherein the cap is rotatable relative to the body about the longitudinal axis between a first orientation and a second orientation, wherein:

in a first orientation, the resiliently-deformable restraint is undeformed such that the catch is engaged with a catch-receiving portion of the guide structure to thereby retain the cap to the body; and
in a second orientation, the resiliently-deformable restraint is deformed such that the catch is disengaged from the catch-receiving portion of the guide structure to thereby release the cap from the body.

2. The aerosol generating device according to claim 1, wherein the cap includes a consumable-receiving cavity and, when in the second orientation, the resiliently-deformable restraint is deformed into the consumable-receiving cavity.
3. The aerosol generating device according to claim 2, wherein rotation of the cap from the first orientation to the second orientation causes the guide structure to urge the catch out of engagement with the catch-receiving portion such that the resiliently-deformable restraint deforms into the consumable-receiving cavity.
4. The aerosol generating device according to any one of claims 1 to 3, wherein, when in the first orientation, the catch is moveably engaged within the catch-receiving portion of the guide structure such that the cap can move relative to the guide structure.
5. The aerosol generating device according to any one of claims 1 to 4, wherein the catch receiving portion of the guide structure is a channel.
6. The aerosol generating device according to either claim 5, wherein the channel includes a longitudinal section in which the catch can move in a longitudinal direction.
7. The aerosol generating device according to either claim 5 or 6, wherein the channel includes a circumferential section in which the catch can move in a circumferential direction.
8. The aerosol generating device according to either claim 6 or claim 7 when dependent on claim 6, wherein movement of the catch in the longitudinal section allows the cap to move in a longitudinal direction relative to the body between a lowered position and a raised position.
9. The aerosol generating device according to claim 8,

wherein, the cap is rotatable relative to the body about the longitudinal axis to a third orientation in which the catch is engaged with a retaining portion of the guide structure such that the cap is retained in the lowered position.

10. The aerosol generating device according to either claim 8 or 9, wherein the body includes a heater and, when the cap is in the lowered position, a portion of the heater protrudes into the consumable-receiving cavity.
11. The aerosol generating device according to any one of claim 1 to 10, wherein the resiliently-deformable restraint includes a resiliently-deformable finger wherein the catch is located at a distal end of the resiliently-deformable finger.
12. The aerosol generating device according to any one of claims 2 to 11, wherein the cap includes two resiliently-deformable restraints, each respective resiliently-deformable restraint being located on respective opposing sides of the consumable-receiving cavity.
13. The aerosol generating device according to any one of claims 1 to 12, wherein the catch is tapered in a circumferential direction to facilitate deformation of the resiliently-deformable restraint when the cap is rotated from the first orientation to the second orientation.
14. The aerosol generating device according to claim 13 when dependent on claim 7, wherein the catch is tapered in a circumferential direction, such that the widest portion of the catch faces towards a terminal end of the circumferential section of the channel.
15. The aerosol generating device according to any one of claims 2 to 14, wherein the cap includes an outer shell and a portion of the consumable-receiving cavity is located within the outer shell.

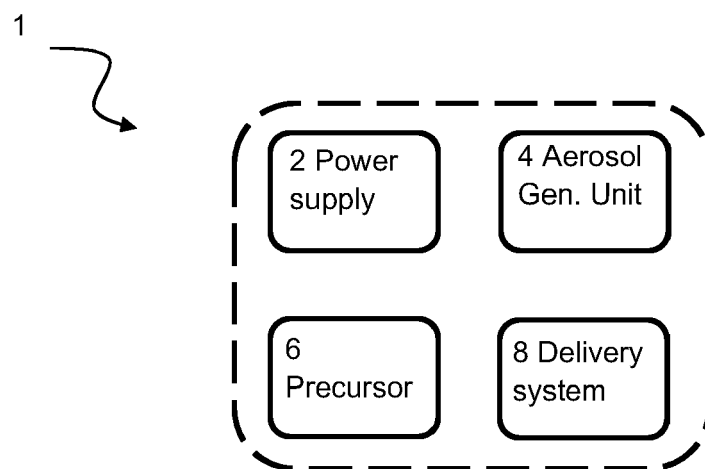


Fig. 1

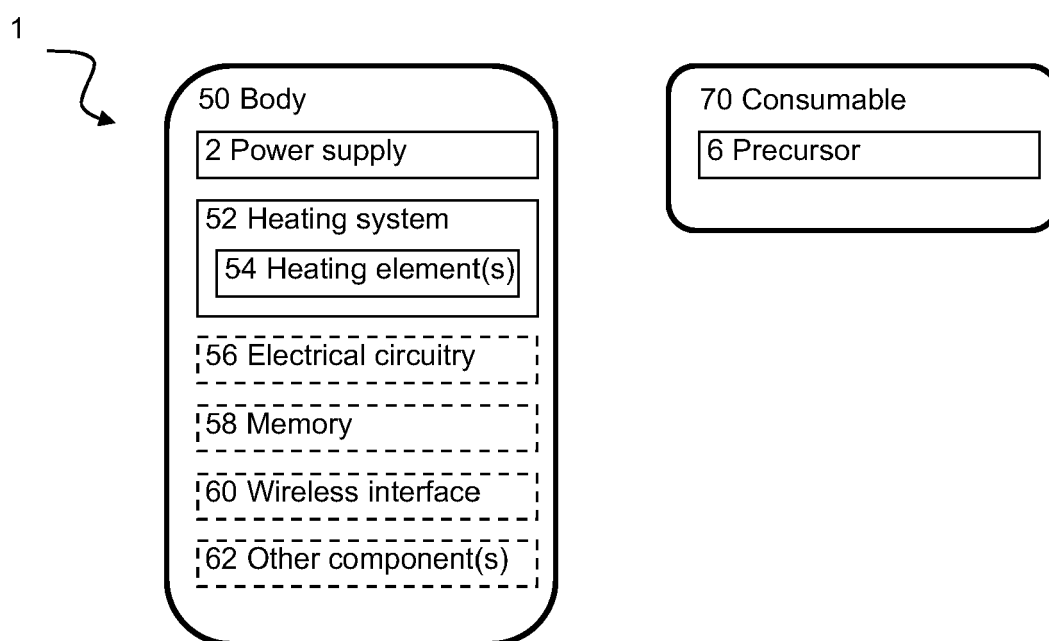
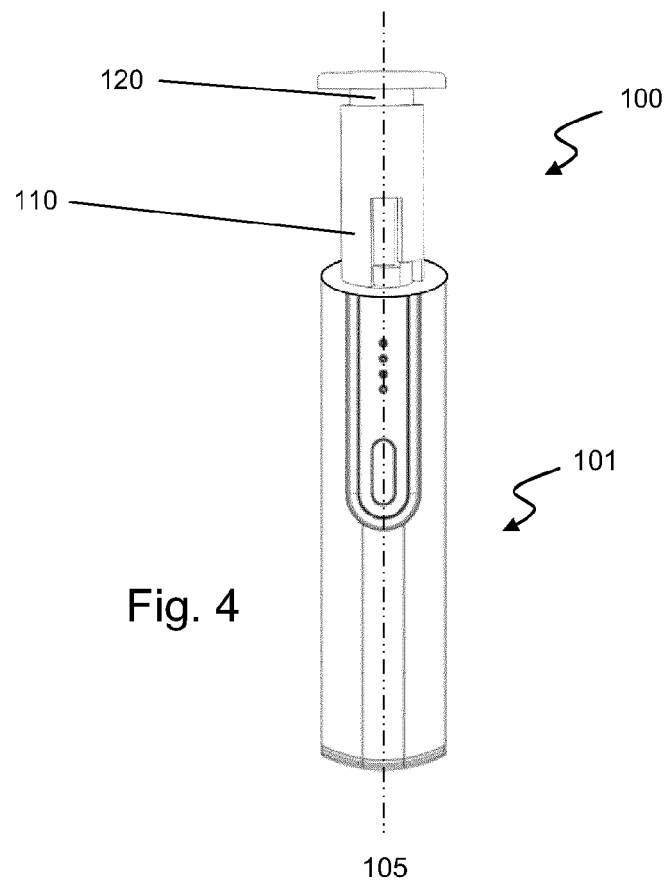
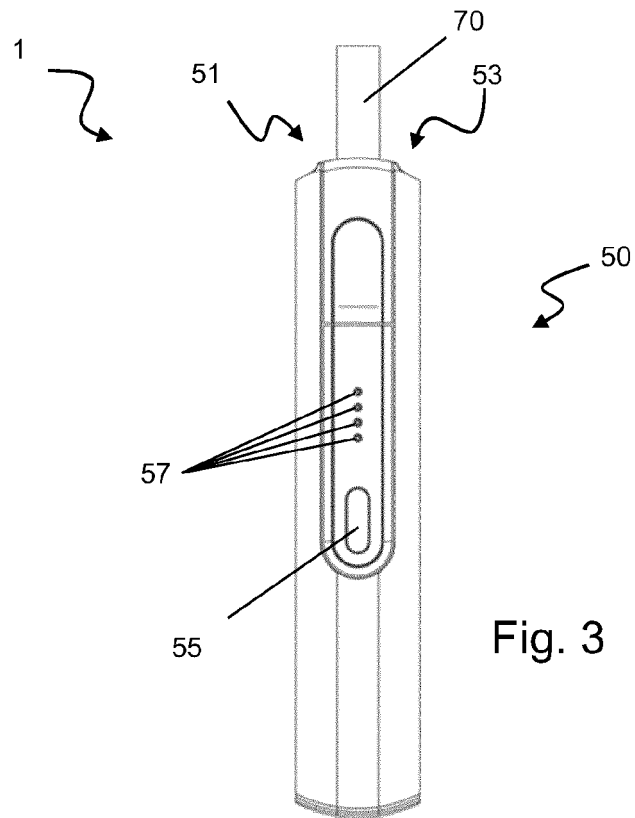
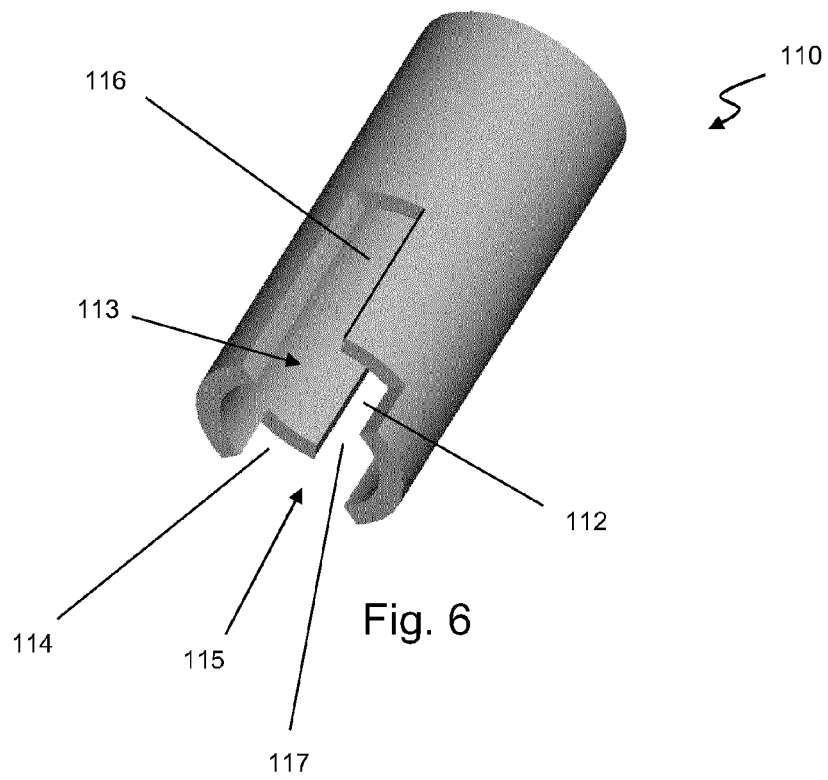
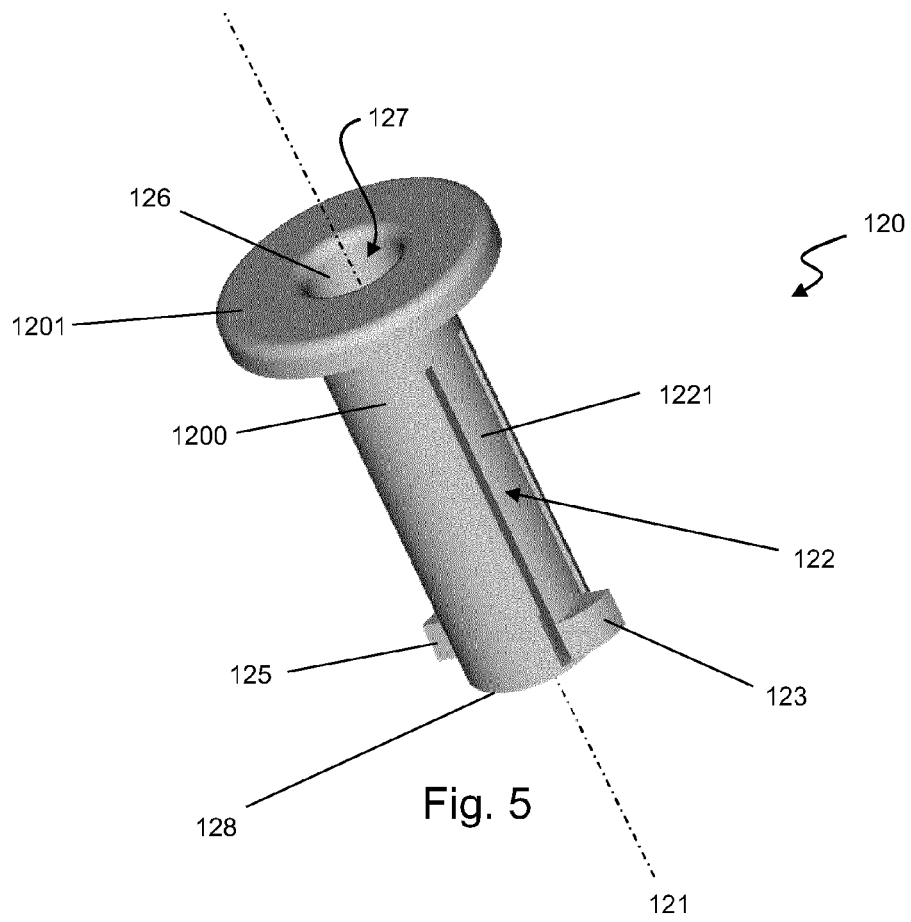
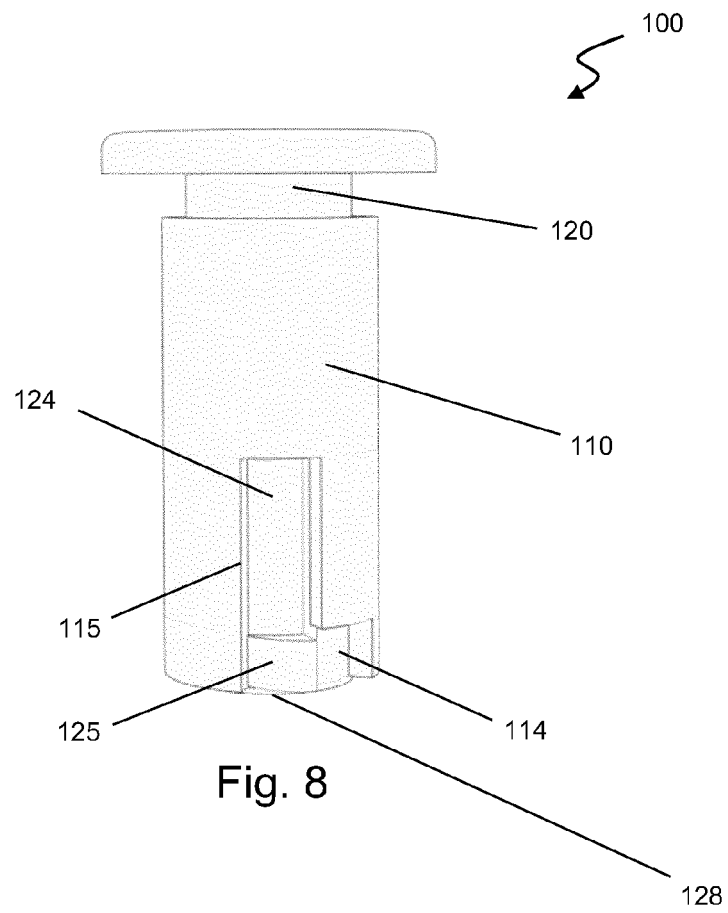
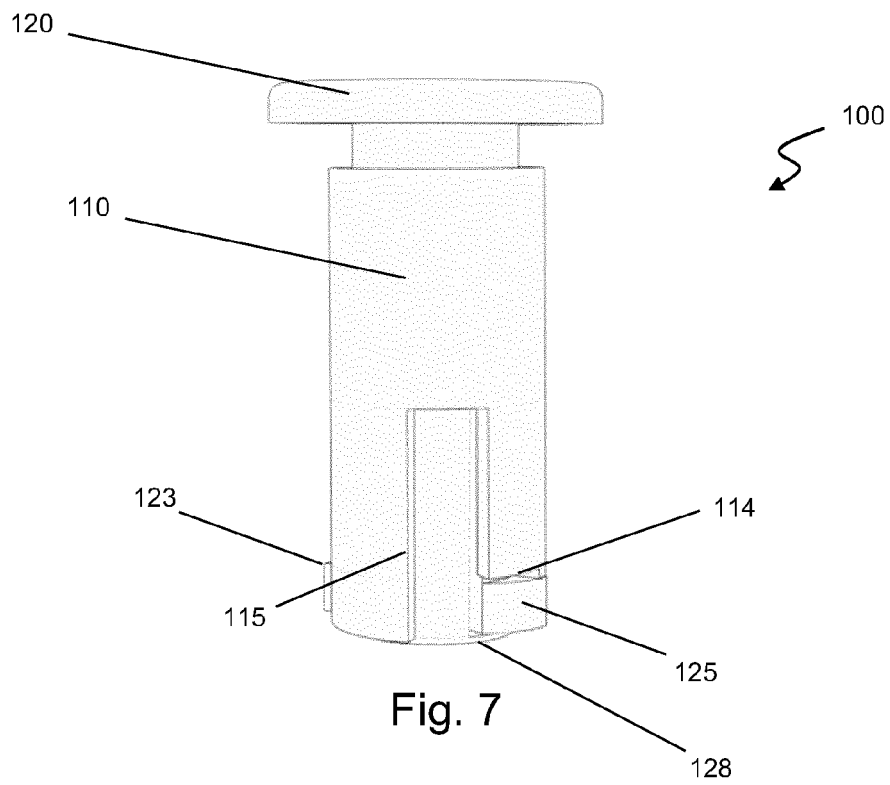


Fig. 2







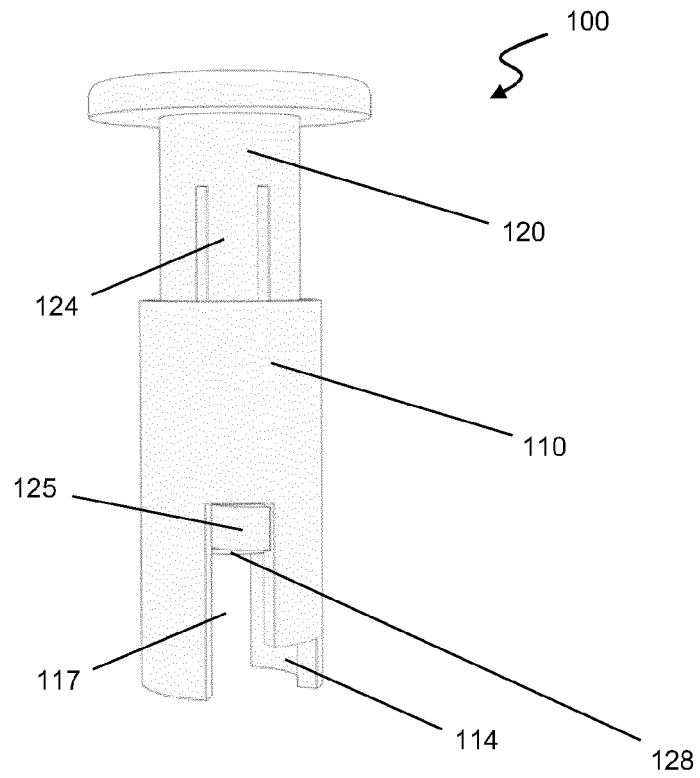


Fig. 9

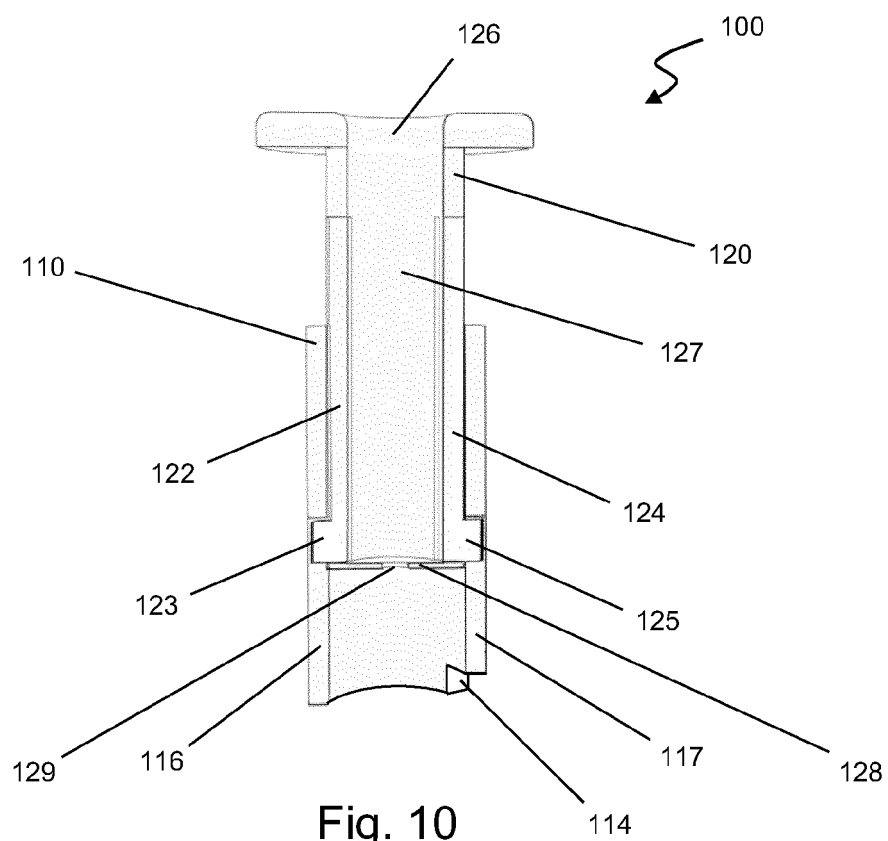
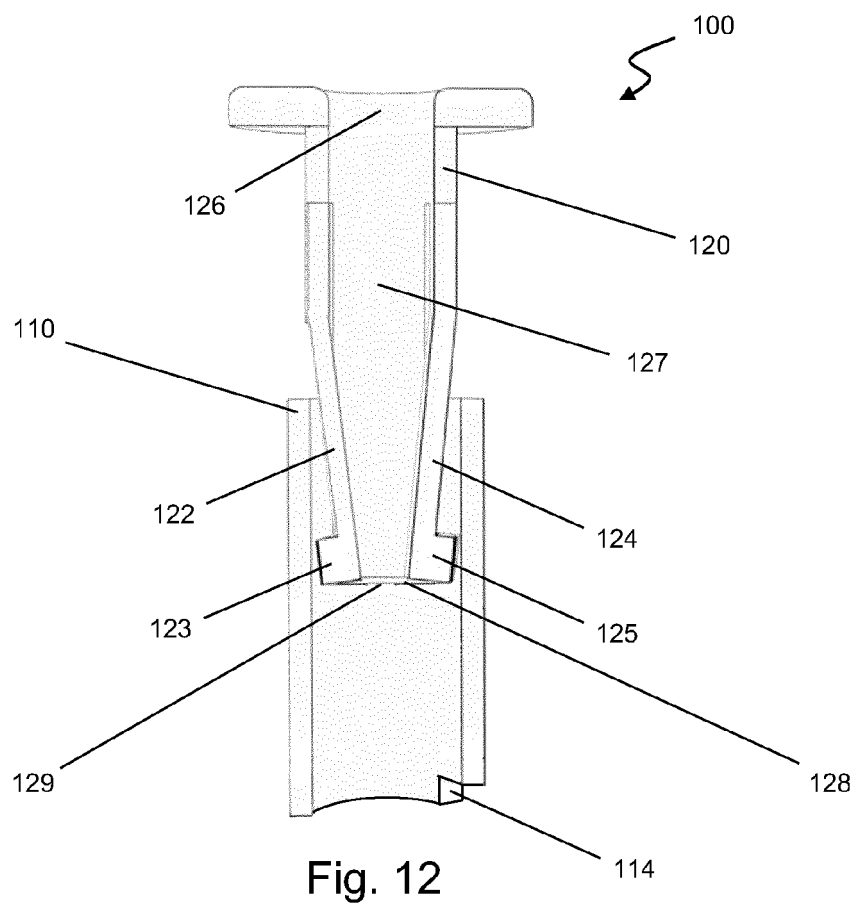
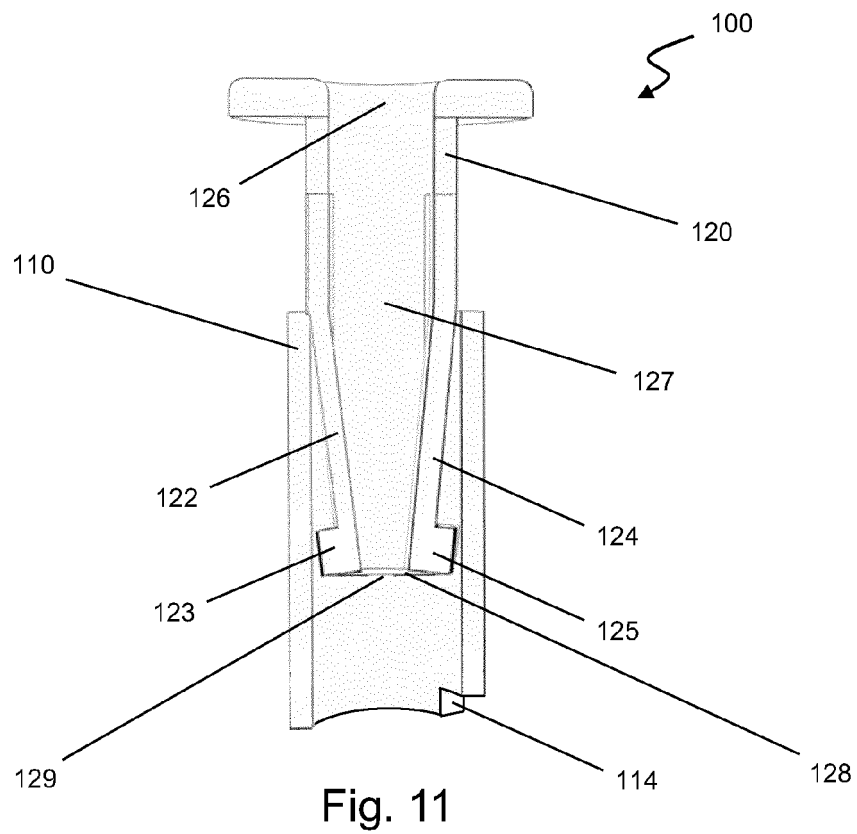


Fig. 10





EUROPEAN SEARCH REPORT

Application Number

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Place of search	Date of completion of the search	Examiner
Munich	7 June 2023	Espla, Alexandre
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