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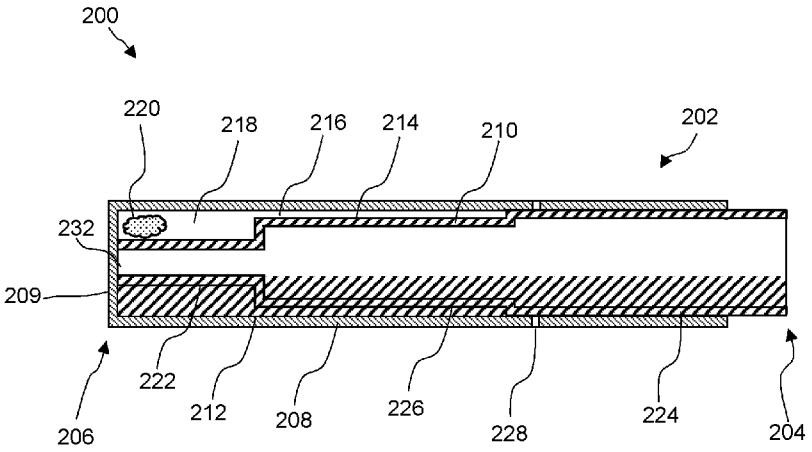


Figure 2

(57) **Abstract:** An article (200) for generating an inhalable aerosol upon heating, the article (200)5 comprising: a body (202) having an open mouth end (204) and a closed distal end (206), the body (202) comprising: an aerosol-generating substrate compartment (218) for holding an aerosol- generating substrate (220), the aerosol-generating substrate compartment (218) being located towards the closed distal end (206) of the body; an outer tube (208); an inner tube (210) disposed within the outer tube (208), an air intake (228) provided on the outer tube (208), the air intake (228) for providing fluid communication between the aerosol-generating substrate compartment (218) and an exterior of the article (200); an air outlet (232) for providing fluid communication between the aerosol-generating substrate compartment (218) and the open mouth end (204) of the body (202) through the inner tube (210), wherein the inner tube (210) and the outer tube (208) are movable relative to one another between a first configuration and a second configuration, wherein in the first configuration the inner tube (210) and the outer tube (208) cooperate with one another to substantially prevent airflow through both the air intake (228) and the air outlet (232), and wherein in the first configuration the outer tube (208) obstructs the air outlet (232) to substantially prevent airflow through the air outlet (232).

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ARTICLE FOR GENERATING AEROSOL WITH MOVABLE TUBES

The present invention relates to an article for generating an aerosol. In particular, the present invention relates to an article for generating an inhalable aerosol upon heating, an article for generating an inhalable aerosol upon heating by an aerosol-generating device, an article for producing an inhalable aerosol upon heating. The article comprises an aerosol-generating substrate compartment for holding an aerosol-generating substrate. Upon heating, the aerosol-generating substrate produces an aerosol.

Articles in which an aerosol-generating substrate, such as a tobacco-containing substrate, is heated rather than combusted, are known in the art. Typically, in such heated articles an aerosol is generated by the transfer of heat from a heat source to a physically separate aerosol-generating substrate or material, which may be located, for example, in contact with, within, around, or downstream of the heat source. During use of the article, volatile compounds are released from the aerosol-generating substrate by heat transfer from the heat source and are entrained in air drawn through the article. As the released compounds cool, they condense to form an aerosol.

A number of prior art documents disclose aerosol-generating devices for consuming articles. Such devices include, for example, electrically heated aerosol-generating devices in which an aerosol is generated by the transfer of heat from one or more electrical heater elements of the aerosol-generating device to the aerosol-generating substrate of a heated article. For example, electrically heated aerosol-generating devices have been proposed that comprise an internal heater blade which is adapted to be inserted into the aerosol-generating substrate. Use of an article in combination with an external heating system is also known. For example, WO 2020/115151 A1 describes the provision of one or more heating elements arranged around the periphery of the article when the article is received in a cavity of the aerosol-generating device. As an alternative, inductively heatable articles comprising an aerosol-generating substrate and a susceptor arranged within the aerosol-generating substrate have been proposed by WO 2015/176898 A1.

Air is typically drawn into articles through an air intake. Prior to use of the article, air may enter the article through the air intake. Air entering the article before use of the article may degrade the quality of aerosol-generating substate contained within the article, which may reduce the quality of the aerosol delivered to a user during subsequent use of the article.

In particular, in humid environments, the aerosol-generating substate may absorb water from air entering the article prior to use of the article. This may increase the temperature of aerosol generated by the aerosol-generating substrate during initial puffs by a user, which may be uncomfortable for the user. As a consequence, aerosol delivered to the user during the initial puffs may differ from aerosol delivered to the user during subsequent puffs.

It would be desirable to provide an article in which the quality and consistency of aerosol delivered to a user is improved comparted to known articles.

The present disclosure relates to an article for generating an aerosol. In particular, the present disclosure relates to an article for generating an inhalable aerosol upon heating, an article for generating an inhalable aerosol upon heating by an aerosol-generating device, or an article for producing an inhalable aerosol upon heating. The article comprises a body having a mouth end and a distal end. The mouth end of the body may be an open mouth end. The distal end of the body may be a closed distal end. The body may comprise an aerosol-generating substrate compartment for holding an aerosol-generating substrate. The aerosol-generating substrate compartment may be located at the distal end of the body. The body may comprise an outer tube and an inner tube disposed within the outer tube. The body may comprise an air intake. The air intake may be provided on the outer tube. The air intake may be for providing fluid communication between the aerosol-generating substrate compartment and mouth end of the body. The body may comprise an air outlet. The air outlet may be for providing fluid communication between the aerosol-generating substate compartment and the mouth end of the body. The air outlet may be for providing fluid communication between the aerosol-generating substrate compartment and the mouth end of the body through the inner tube. The inner tube and the outer tube may be movable relative to one another between a first configuration and a second configuration. In the first configuration, the inner tube and the outer tube may cooperate with one another to substantially prevent airflow through both the air intake and the air outlet.

According to a first aspect of the invention, there is provided an article for generating an aerosol, the article comprising: a body having an open mouth end and a closed distal end, the body comprising: an aerosol-generating substrate compartment for holding an aerosol-generating substrate, the aerosol-generating substrate compartment being located towards the closed distal end of the body; an outer tube; an inner tube disposed within the outer tube, an air intake provided on the outer tube, the air intake for providing fluid communication between the aerosol-generating substrate compartment and an exterior of the article; an air outlet for providing fluid communication between the aerosol-generating substrate compartment and the open mouth end of the body through the inner tube, wherein the inner tube and the outer tube are movable relative to one another between a first configuration and a second configuration, wherein in the first configuration the inner tube and the outer tube cooperate with one another to substantially prevent airflow through both the air intake and the air outlet.

The present disclosure also relates to an aerosol-generating system. The aerosol-generating system may comprise an article for generating an aerosol, or an article for generating an inhalable aerosol upon heating, as described above. The aerosol-generating system may comprise an aerosol-generating device. The aerosol-generating device may comprise a heating element. The aerosol-generating device may comprise a power supply for supplying electrical

power to the heating element. The aerosol-generating device may comprise a controller. The controller may be configured to control a supply of power from the power supply to the heating element.

According to a second aspect of the invention, there is provided an aerosol-generating system comprising: an aerosol-generating article according to the first aspect of the invention and an aerosol-generating device, wherein the aerosol-generating device comprises: a heating element; a power supply for supplying electrical power to the heating element; and a controller configured to control a supply of power from the power supply to the heating element.

As used herein with reference to the invention, the term “article” or “article for generating an aerosol” is used to describe an article configured to hold or receive an aerosol-generating substrate. The aerosol-generating substrate compartment of an article may comprise an aerosol-generating substrate. The article may be an aerosol-generating article. Unless otherwise stated, features associated with an “article” are equally applicable to an “aerosol-generating article”.

As used herein with reference to the invention, the term “aerosol-generating article” is used to describe an article comprising an aerosol-generating substrate that is heated to generate an inhalable aerosol for delivery to a user.

As used herein with reference to the invention, the term “aerosol-generating substrate” is used to describe a substrate comprising aerosol-generating material that is capable of releasing upon heating volatile compounds that can generate an aerosol. The aerosol is an inhalable aerosol.

As used herein with reference to the invention, the term “aerosol” is used to describe a dispersion of solid particles, or liquid droplets, or a combination of solid particles and liquid droplets, in a gas. The aerosol may be visible or invisible. The aerosol may include vapours of substances that are ordinarily liquid or solid at room temperature as well as solid particles, or liquid droplets, or a combination of solid particles and liquid droplets.

As used herein with reference to the invention, the term “aerosol-generating device” is used to describe a device that interacts with the aerosol-generating substrate in an article to generate an aerosol.

Articles according to the invention have a mouth end through which, in use, an aerosol exits the article for delivery to a user. The mouth end of the article may also be referred to as the downstream end or proximal end of the article. In use, a user draws directly or indirectly on the mouth end of the -generating article in order to inhale an aerosol generated by the article.

Articles according to the invention have a distal end. The distal end is opposite the mouth end. The distal end of the article may be the upstream end of the article.

As used herein with reference to the invention, the term “longitudinal” is used to describe the direction between the distal end and the mouth end of the article.

As used herein with reference to the invention, the term “length” is used to describe the maximum dimension of the article, a component of the article, or a part of the article in the longitudinal direction.

As used herein with reference to the invention, the term “transverse” is used to describe a direction perpendicular to the longitudinal direction.

Advantageously, articles according to the invention are provided with a means of preventing air from the exterior of the article from contacting an aerosol-generating substrate that may be stored within the aerosol-generating substrate compartment, until a user wishes to use the article to generate an aerosol. By sealing the aerosol-generating substrate compartment from the exterior of the article prior to use of the article, absorption of water from humid air by the aerosol-generating substrate prior to use of the article is substantially reduced or prevented.

Reducing the amount of water that is absorbed by the aerosol-generating substrate prior to use of the article may help to avoid undesirably warm aerosol being delivered to a user during the initial puffs. This may help to achieve a more consistent aerosol between the initial puffs and subsequent puffs.

Reducing the amount of water that is absorbed by the aerosol-generating substrate may increase the shelf life of aerosol-generating substrate stored within the aerosol-generating substrate compartment. This may improve the quality of aerosol delivered to a user.

The article has a distal end and a mouth end.

The body of the article may extend from the distal end of the article towards the mouth end of the article. The body of the article may extend from the mouth end of the article towards the distal end of the article. The body of the article may extend from the distal end of the article to the mouth end of the article.

The distal end of the body may be the distal end of the article. The article may have a closed distal end.

The mouth end of the body may be the mouth end of the article. The article may have an open mouth end.

The article may be an aerosol-generating article.

The mouth end of the article may be used as a mouthpiece. The article may comprise a mouthpiece element. The mouthpiece element may be located at the mouth end of the article. The mouthpiece element may be a mouthpiece filter element.

The aerosol-generating substrate compartment may be a cavity within the body. The aerosol-generating substrate compartment may be a solid storage portion. In other words, the aerosol-generating substrate compartment may be for holding a solid aerosol-generating substrate. The aerosol-generating substrate compartment may be a liquid storage portion.

The aerosol-generating substrate compartment may be located at the distal end of the body.

The aerosol-generating substrate compartment may be defined by the closed distal end of the body. The aerosol-generating substrate compartment may be a chamber defined as a cavity between the inner tube and the outer tube at the closed distal end of the body.

The aerosol-generating substrate compartment may comprise an aerosol-generating substrate. The aerosol-generating substrate may be a solid aerosol-generating substrate. The aerosol-generating substrate may be a liquid aerosol-generating substrate.

The inner tube has a distal end and a mouth end. The inner tube may have an open distal end. The inner tube may have an open mouth end. The open mouth end of the inner tube may define the open mouth end of the body.

The external diameter of the inner tube may vary along the length of the inner tube. The internal diameter of the inner tube may vary along the length of the inner tube.

The inner tube may comprise one or more sections. Adjacent sections of the inner tube may have different external diameters. Adjacent sections of the inner tube may have different internal diameters.

Each section of the inner tube may have a substantially constant external diameter. Each section of the inner tube may have a substantially constant internal diameter.

The inner tube may comprise a mouth end section. The mouth end section may be located towards the mouth end of the inner tube. The mouth end section may be located at the mouth end of the inner tube. The mouth end section of the inner tube may be used as a mouthpiece.

The inner tube may comprise a distal end section. The distal end section may be located towards the distal end of the inner tube. The distal end section may be located at the distal end of the inner tube. The distal end section of the inner tube may be disposed within the outer tube.

The inner tube may comprise a middle section. The middle section may be located between the mouth end section and the distal end section. The middle section may extend between the mouth end section and the distal end section. The middle section may extend from the mouth end section towards the distal end section. The middle section may extend from the distal end section towards the mouth end section. The middle section may extend from the distal end section to the mouth end section.

The mouth end section of the inner tube may have an external diameter that is substantially the same as an internal diameter of the outer tube. This may be such there is an airtight fit between the external surface of the inner tube and the inner surface of the outer tube at a position along the mouth end section of the inner tube.

The distal end section of the inner tube may have an external diameter that is smaller than the external diameter of the mouth end section. Advantageously, the mouth end section having an external diameter that is larger than the external diameter of the distal end section may increase homogenization and cooling of an aerosol generated by vaporising an aerosol-generating substrate held in the aerosol-generating substrate compartment.

The distal end section of the inner tube may have an internal diameter that is smaller than the internal diameter of the mouth end section.

The distal end section of the inner tube may have an external diameter that is smaller than the internal diameter of the outer tube.

The middle section of the inner tube may have an external diameter that is in between the external diameter of the mouth end section and the external diameter of the distal end section. The middle section of the inner tube may have an internal diameter that is in between the internal diameter of the mouth end section and the internal diameter of the distal end section

The external diameter of the middle section may be smaller than the internal diameter of the outer tube.

The middle section of the inner tube may have a larger internal volume than the distal end section of the inner tube. The mouth section of the inner tube may have a larger internal volume than the middle section of the inner tube.

When the outer tube and the inner tube are in the first configuration, the mouth end of the inner tube may protrude out of the outer tube. When the outer tube and the inner tube are in the first configuration, the mouth end section of the inner tube may protrude out of the outer tube. Advantageously, the inner tube protruding out of the outer tube may provide the user with an easily activatable means of moving the outer and the inner tube from the first configuration to the second configuration.

When the outer tube and the inner tube are in the second configuration, the inner tube may protrude out of the outer tube by a greater extent than when the outer tube and the inner tube are in the first configuration.

The length of the inner tube may be greater than the length of the outer tube. The length of the inner tube may be greater than an internal length of the outer tube. In other words, the length of the inner tube may be greater than the length of the outer tube extending from the internal surface of a distal end wall of the outer tube to the mouth end of the outer tube.

The length of the mouth end section may be greater than a length of the outer tube extending from the air intake to the mouth end of the outer tube. This may be such that the mouth end section of the inner tube protrudes out of the outer tube in the first configuration while also obstructing the air intake to substantially prevent airflow through the air intake in the first configuration.

The one or more portions of the inner tube may be integrally formed or may be individually formed and connected together to form a single piece.

The inner tube may be formed from a substantially air-impermeable material. The inner tube may be formed from a plastic.

The air outlet may provide fluid communication between the aerosol-generating substrate compartment and an open mouth end of the inner tube. The air outlet may provide fluid

communication between the aerosol-generating substrate compartment and an open mouth end of the inner tube through an open distal end of the inner tube.

The air outlet may be configured such that, when the inner tube and the outer tube are in the second configuration, air may flow through the air outlet substantially longitudinally into the inner tube.

The air outlet may be provided at the distal end of the inner tube.

The air outlet may be provided through the distal end face of the inner tube. For example, the air outlet may be provided by one or more openings or holes extending through the distal end face of the inner tube. The air outlet may be provided by one or more openings of the inner tube defining the open distal end of the inner tube.

The air outlet may be provided by a single opening or a plurality of openings.

The inner tube may comprise an opening at the distal end of the inner tube, wherein the opening is defined by the peripheral wall of the inner tube. The air outlet may be provided by an opening of the inner tube defined by the peripheral wall of the inner tube.

The outer tube may have a substantially constant external diameter along the entire length of the outer tube. The outer tube may have a substantially constant internal diameter along the entire length of the outer tube.

The outer tube may have a substantially cylindrical shape.

The outer tube has a distal end and a mouth end. The outer tube may have a closed distal end. The closed distal end of the outer tube may define the closed distal end of the body. The outer tube may have an open mouth end.

The inner tube may be insertable into the outer tube via the open mouth end of the outer tube.

The inner tube and the outer tube may have the same longitudinal axis.

The outer tube may comprise a distal end wall, the distal end wall forming a closed distal end of the outer tube.

The outer tube may be formed from a substantially air-impermeable material. The outer tube may be formed from a plastic.

The air intake may provide fluid communication between the aerosol-generating substrate compartment and an exterior of the outer tube.

The air intake may be configured such that, when the inner tube and the outer tube are in the second configuration, air may flow substantially transversely into the outer tube.

The air intake is provided on the outer tube. The air intake may be provided through the outer tube. The air intake may be provided through a wall of the outer tube. The air intake may be provided in the outer tube.

The air intake may be provided on the outer tube at a location that is spaced away from the mouth end of the article. This may help to avoid a user's lips occluding the air intake during use of the article.

The air intake may comprise one or more openings or holes. For example, the air intake may comprise one or more openings provided on the outer tube.

The air intake may comprise a single opening. The air intake may comprise a plurality of openings. For example, the air intake may comprise a plurality of openings arranged circumferentially around the outer tube, such as in a row around the circumference of the outer tube.

A ratio of the resistance to draw (RTD) through the air intake to the overall resistance to draw (RTD) of the article may be at least 0.5, at least 0.7, or at least 0.9. Such a ratio may be calculated based on measuring an RTD of the article when the article is in an assembled state (in other words, the inner tube being assembled within the outer tube) and in the second configuration, measuring an RTD of the outer tube by drawing air flow through the air intake from the mouth end of the outer tube, and then dividing such a measured RTD of the outer tube by the measured RTD of the article when the article is in both the assembled state and second configuration. Preferably, measuring the RTD through the air intake of the outer tube by drawing air flow through the air intake from the mouth end of the outer tube is carried out on the outer tube alone, isolated from the inner tube.

The ratio of the RTD through the air intake to the overall RTD of the article may also be referred to as the ratio of the RTD of the air intake to the overall RTD of the article, or the ratio of the RTD of the outer tube to the overall RTD of the article.

Unless otherwise stated, the resistance to draw (RTD) of the article or a component of the article is expressed with the units of pressure 'mm WG' or 'mm of water gauge' or 'mm H2O' and is measured in accordance with ISO 6565-2015 at a volumetric flow rate of 17.5 millimetres per second at the mouth end or downstream end of the article or the component thereof at a temperature of about 22 degrees Celsius, a pressure of about 101 kPa (about 760 Torr) and a relative humidity of about 60%.

The inventors have found that arranging the ratio of the resistance to draw through the air intake to the overall resistance to draw of the article to be at least 0.5 may provide a satisfactory experience for a user of such a closed ended article. The provision of such an air intake may allow for a corresponding aerosol-generating device with less complex airflow management features and where the article may be securely received within the device in a tight fit manner. Furthermore, with such a relatively high ratio or contribution to the overall RTD of the article of the air intake, air may only flow through the air intake under a high pressure draw. Therefore, the risk of air inadvertently entering the article and the aerosol-generating compartment without a

user drawing on the article may be reduced and may prolong the shelf life of any aerosol-generating substrate present in the aerosol-generating compartment.

Each of the one or more openings of the air intake may have an area of at least 0.005 square millimetres, at least 0.01 square millimetres, or at least 0.5 square millimetres. Each of the one or more openings of the air intake may have an area of less than or equal to 3.5 square millimetres, less than or equal to 2 square millimetres, or less than or equal to 1 square millimetres.

The inner tube and the outer tube may be configured such that a space is defined between an internal surface of the outer tube and an external surface of the inner tube. The space may be defined by the internal surface of the outer tube and the external surface of the inner tube. The space may be empty.

The empty space may be annular. In other words, the empty space may circumscribe the inner tube.

As discussed above, the inner tube may comprise a distal end section having an external diameter less than an internal diameter of the outer tube. The distal end section of the inner tube is located within the outer tube. The internal surface of the outer tube and the external surface of the distal end section of the inner tube may define a space therebetween.

As also discussed above, the inner tube may comprise a middle section having an external diameter less than an internal diameter of the outer tube. The middle section of the inner tube may be located within the outer tube. The internal surface of the outer tube and the external surface of the middle section of the inner tube may define a space therebetween.

When the inner tube and the outer tube are in the second configuration, a first airflow passageway of the article may be defined between the air intake and the aerosol-generating substrate compartment. The first airflow passageway may extend from the air intake to the aerosol-generating substrate compartment. The first airflow passageway may extend through the space defined between the internal surface of the outer tube and the external surface of the inner tube.

The first airflow passageway may be external to the inner tube.

The first airflow passageway may comprise one or more channels longitudinally defined between the inner tube and the outer tube and establishing fluid communication from the air intake to the aerosol-generating substrate compartment.

Each channel may be defined at least partially by a corresponding groove provided in an external surface of the inner tube. Each channel may be defined at least partially by a corresponding grooved provided on in internal surface of the outer tube. Each channel may be defined at least partially by a corresponding groove provided in external surface of the inner tube or in an internal surface of the outer tube such that the resistance to draw of the article may be more accurately predefined during manufacturing in order to improve user experience. The

provision of such a first airflow passageway may allow for a corresponding aerosol-generating device with less complex airflow management features and where the article may be securely received within the device in a tight fit manner.

Along a portion of the length of the first airflow passageway, the outer periphery of the inner tube may engage with the internal surface of the outer tube.

When the inner tube and the outer tube are in the second configuration, the first airflow passageway may be open to allow airflow through the air intake to the aerosol-generating substrate compartment via the first airflow passageway.

When the inner tube and the outer tube are in the second configuration, a second airflow passageway of the article may be defined between the aerosol-generating substrate compartment and the open mouth end of the body. The second airflow passageway may extend from the aerosol-generating substrate compartment to the open mouth end of the body.

The second airflow passageway may be defined between the aerosol-generating substrate compartment and an open mouth end of the inner tube. The second airflow passageway may extend from the aerosol-generating substrate compartment to an open mouth end of the inner tube.

The second airflow passageway may extend at least through the air outlet. In other words, the second airflow passageway may pass through the air outlet.

The second airflow passageway may extend at least through the inner tube. That is, the second airflow passageway may pass through an interior of the inner tube.

When the inner tube and the outer tube are in the second configuration, the second airflow passageway may be open to allow airflow from the aerosol-generating substrate compartment to the open mouth end of the body via the second airflow passageway.

When the inner tube and the outer tube are in the second configuration, the inner tube and the outer tube may be configured to allow airflow through both the air intake and the air outlet. When the inner tube and the outer tube are in the second configuration, the inner tube and the outer tube may cooperate to allow airflow through both the air intake and the air outlet.

The inner tube may be located at least partially within the outer tube both when the inner tube and the outer tube are in the first configuration and when the inner tube and the outer tube are in the second configuration.

The inner tube and the outer tube may be movable longitudinally relative to one another. Longitudinal movement of the inner tube and the outer tube relative to one another may move the inner tube and the outer tube between the first configuration and the second configuration. In other words, the inner tube and the outer tube may be configured to be movable longitudinally relative to one another between the first configuration and the second configuration.

The inner tube and the outer tube may be slidable relative to one another. Sliding movement of the inner tube and the outer tube relative to one another may move the inner tube and the outer tube between the first configuration and the second configuration.

The inner tube and the outer tube may be slidable longitudinally relative to one another. Longitudinal sliding movement of the inner tube and the outer tube relative to one another may move the inner tube and the outer tube between the first configuration and the second configuration.

The inner tube and the outer tube may be configured to be reversibly movable relative to one another from the first configuration to the second configuration. This may provide the article with a means to re-seal the aerosol-generating substrate compartment from air external to the article following a first use of the article. A means to re-seal the aerosol-generating substrate compartment may advantageously allow use of the article to be interrupted and then subsequently resumed without adversely affecting the quality and consistency of aerosol delivered to a user.

When the inner tube and the outer tube are in the first configuration, the distal end of the inner tube may be closer to the distal end of the outer tube than when the inner tube and the outer tube are in the second configuration. Moving the inner tube and the outer tube from the first configuration to the second configuration may involve pulling the inner tube away from the distal end of the outer tube.

When the inner tube and the outer tube are in the first configuration, the inner tube and the outer tube cooperate to substantially prevent airflow through both the air intake and the air outlet. Simultaneous prevention of airflow through both the air intake and the air outlet may provide the article with a simple activation and deactivation means. The first configuration may be referred to as a closed configuration. When the inner tube and the outer tube are in the first configuration, the article may be referred to as being in the first configuration.

The air intake may be the only air intake of the article. When a user draws on the mouth end of the article, substantially all of the air drawn into the article may be through the air intake.

The air outlet may be the only air outlet of the article.

When the inner tube and the outer tube are in the first configuration, the inner tube may obstruct the air intake to substantially prevent airflow through the air intake. This may provide a mechanism to substantially prevent airflow to the aerosol-generating substrate compartment which is simple to manufacture.

When the inner tube and the outer tube are in the second configuration, the inner tube may be spaced apart from the air intake to allow airflow through the air intake. The second configuration may be referred to as an open configuration. The article may be in the second configuration during use of the article. When the inner tube and the outer tube are in the second configuration, the article may be referred to as being in the second configuration.

When the inner tube and the outer tube are in the second configuration, the inner tube may be transversely spaced apart from the air intake to allow airflow through the air intake. For example, when the inner tube and the outer tube are in the second configuration, the inner tube may be located at least partially within the outer tube, and the inner tube may be transversely spaced apart from the air intake to allow airflow through the air intake.

When the inner tube and the outer tube are in the second configuration, a space may be defined between the air intake and the inner tube. The space defined between the air intake and the inner tube may be an empty space.

When the inner tube and the outer tube are in the second configuration, the inner tube may be transversely spaced away from the air intake.

Where the inner tube comprises a mouth end section, the mouth end section of the inner tube may be configured to obstruct the air intake when the inner tube and the outer tube are in the first configuration. For example, as discussed above, the mouth end section of the inner tube may have an external diameter substantially the same as the internal diameter of the inner tube.

Where the inner tube comprises a mouth end section and one or more sections between the distal end of the inner tube and the mouth end section, the combined length of the one or more sections may be such that the mouth end section obstructs the air intake when the inner tube and the outer tube are in the first configuration, and is spaced away from the air intake when the inner tube and the outer tube are in the second configuration.

The combined length of the one or more sections of the inner tube located between the distal end of the inner tube and the mouth end section of the inner tube may be less than a length of the outer tube from an internal surface of a distal end wall of the outer tube to the air intake provided on the outer tube.

The combined length of the one or more sections of the inner tube located between the distal end of the inner tube and the mouth end section of the inner tube may be less than a length of the outer tube from an internal surface of a distal end wall of the outer tube to the air intake provided on the outer tube by at least about 1 millimetre, at least about 2 millimetres, or at least about 5 millimetres. The combined length of the one or more sections of the inner tube located between the distal end of the inner tube and the mouth end section of the inner tube may be less than a length of the outer tube from an internal surface of a distal end wall of the outer tube to the air intake provided on the outer tube by less than or equal to about 10 millimetres.

The combined length of the one or more sections of the inner tube between the distal end of the inner tube and the mouth end section of the inner tube, and the length of the of the outer tube from the internal surface of the distal end wall of the outer tube to the air intake may be selected to ensure that airflow is substantially prevented through the air intake and the air outlet when the inner tube and the outer tube are in the first configuration.

When the inner tube and the outer tube are in the first configuration, the distal end of the mouth end section of the inner tube may be located longitudinally between the distal end of the outer tube and the air intake. This may be such that the mouth end section of the inner tube obstructs the air intake when the inner tube and the outer tube are in the first configuration.

When the inner tube and the outer tube are in the second configuration, the distal end of the mouth end section of the inner tube may be located longitudinally between the air intake and the mouth end of the outer tube. This may be such that an empty space is defined between the air intake and the external surface of the inner tube to allow airflow through the air intake into the empty space. For example, an empty space may be defined between the air intake and a middle section of the inner tube.

When the inner tube and the outer tube are in the first configuration, the outer tube may obstruct or cover the air outlet to substantially prevent airflow through the air outlet. This may provide a mechanism to substantially prevent airflow to the aerosol-generating substrate compartment which is simple to manufacture.

When the inner tube and the outer tube are in in the second configuration, the outer tube may be spaced apart from the air outlet to allow airflow through the air outlet. When the inner tube and the outer tube are in in the second configuration, the outer tube may be longitudinally spaced apart from the air outlet to allow airflow through the air outlet. When the inner tube and the outer tube are in the second configuration, the inner tube may be located at least partially within the outer tube, and the outer tube may be longitudinally spaced apart from the air outlet to allow airflow through the air outlet.

When the inner tube and the outer tube are in the second configuration, a space may be defined between the air outlet and the outer tube. The space defined between the air outlet and the outer tube may be an empty space.

When the inner tube and the outer tube are in the second configuration, the outer tube may be longitudinally spaced away from the air outlet.

Where the air outlet is provided through an open distal end of the inner tube, when the inner tube and the outer tube are in the first configuration, the distal end of the inner tube may abut an internal surface of the outer tube to substantially prevent airflow through the air outlet. For example, the outer tube may comprise a distal end wall, the air outlet may be provided through an open distal end of the inner tube, and when the inner tube and the outer tube are in the first configuration, the distal end of the inner tube may abut the distal end wall of the outer tube to substantially prevent airflow through the air outlet. In the first configuration, the distal end wall of the outer tube may cover the air intake such that air is substantially prevented from flowing through the air outlet. When the inner tube and the outer tube are in the second configuration, the distal end wall of the outer tube may be spaced apart from the distal end of the inner tube, such

that a space is defined between the distal end wall of the outer tube and the air intake to allow airflow through the air intake into the inner tube.

The inner tube and the outer tube are movable relative to one another to an intermediate configuration between the first configuration and the second configuration.

In the intermediate configuration between the first configuration and the second configuration, the inner tube and the outer tube may cooperate with one another to restrict flow of air through the air intake. Restricting airflow through the air intake may adjust the resistance to draw of the article. In the intermediate configuration, the resistance to draw of the article may be between the resistance to draw of the article when the inner tube and the outer tube are in the first configuration and the resistance to draw of the article when the inner tube and the outer tube are in the second configuration.

In the intermediate configuration, the inner tube and the outer tube may cooperate with one another to partially obstruct the air intake. For example, in the first configuration the inner tube may completely obstruct the air intake to prevent airflow through the air intake, in the second configuration the inner tube may be spaced away from the air intake to allow airflow through the entirety of the air intake, and in the intermediate configuration the inner tube may partially obstruct the air intake to allow airflow through only a part of the air intake.

As discussed above, the air intake may comprise one or more openings. When the inner tube and the outer tube are in the intermediate configuration, the one or more openings may be partially obstructed.

The one or more openings have a total opening area. The inner tube and the outer tube may be configured such that the total area of the one or more openings unobstructed or available for air to flow therethrough (total available area of the one or more openings) is adjustable. The total available area of the one or more openings of the air intake may be adjusted to adjust the resistance to draw of the article. Increasing the total available area of the one or more openings may increase airflow through the air intake and reduce the resistance to draw of the article. Reducing the total available area of the one or more openings may decrease airflow through the air intake and increase the resistance to draw of the article.

When the inner tube and the outer tube are in the first configuration, the available area of the one or more openings may be about zero. When the inner tube and the outer tube are in the second configuration, the available area of the one or more openings may be about the same as the total opening area of the one or more openings. When the inner tube and the outer tube are in the intermediate configuration, the available area of the one or more openings may be a fraction of the total opening area of the one or more openings. In other words, when the inner tube and the outer tube are in the intermediate configuration, the available area of the one or more openings may be between the available area of the one or more openings when the inner tube

and the outer tube are in the first configuration and the available area of the one or more openings when the inner tube and the outer tube are in the second configuration.

Where the air intake comprises a plurality of openings, when the inner tube and the outer tube are in the intermediate configuration, only some of the plurality of openings may be open to allow airflow through the some of the plurality of openings.

Where the air intake comprises a single opening, when the inner tube and the outer tube are in the intermediate configuration, a part of the opening may be obstructed such that airflow is permitted only through a part of the opening.

The article may comprise a cap for sealing the open mouth end of the body. The cap may be a removable cap. The cap may be removably attachable to the mouth end of the body.

The cap may be a substantially air-impermeable cap.

When the cap is attached to the mouth end of the body, air is obstructed from flowing through the mouth end of the body. For example, when the cap is attached to the mouth end of the body, air external to the article is obstructed from flowing through the mouth end of the body to the aerosol-generating substrate compartment.

When the cap is removed from the mouth end of the body, air may flow through the mouth end of the body.

The cap may comprise a tab.

The article may comprise a substantially air-impermeable wrapper comprising a cover portion, the cover portion overlying the air intake to substantially prevent the ingress of air into the article through the air intake. The article may be configured such that the cover portion is movable away from the air intake. This may allow the ingress of air into the article through the air intake.

The substantially air-impermeable wrapper may circumscribe the outer tube.

The article may be configured such that the cover portion is removable. The cover portion may be removed from the body of the article prior to use of the article. For example, prior to use of the article, the cover portion of the substantially air impermeable wrapper may obstruct the air intake and the inner tube and the outer tube may be in the first configuration. To use the article, a user may remove the cover portion of the substantially air-impermeable wrapper from the body of the article and move the inner tube and the outer tube relative to one another to the second configuration.

The article may comprise a transverse line of weakness provided in the substantially air-impermeable wrapper, wherein the cover portion extends to the transverse line of weakness. The substantially air-impermeable wrapper may be breakable along the transverse line of weakness to allow the movement of the cover portion away from the air intake.

The article may comprise two transverse lines of weakness provided in the substantially air-impermeable wrapper. That is, the article may comprise a first transverse line of weakness

provided in the substantially air-impermeable wrapper and a second transverse line of weakness provided in the substantially air-impermeable wrapper.

The first transverse line of weakness may be located between the air intake and the distal end of the article. The second transverse line of weakness may be located between the air intake and the mouth end of the article.

The cover portion of the substantially air-impermeable wrapper may be the portion of the substantially air-impermeable wrapper extending from the first transverse line of weakness to the second transverse line of weakness. The article may be configured such that the cover portion of the substantially air-impermeable wrapper extending from the first transverse line of weakness to the second transverse line of weakness is removable.

The aerosol-generating device may comprise a housing. The housing may extend between a first end and a second end. The housing may be a rigid housing. The housing may define a heating chamber for removably receiving the article. The heating chamber may be defined by a closed first end and an open second end. The open second end of the heating chamber may be located at the second end of the aerosol-generating device.

The heating chamber may extend between its closed first end and its open second end. An article may be inserted into the heating chamber, via the open end of the heating chamber. The heating chamber may be cylindrical in shape.

The aerosol-generating device may comprise a heater or a heating element for heating the aerosol-generating substrate when the article is received within the heating chamber.

The heater may comprise an inductive heating arrangement. The inductive heating arrangement may comprise an inductor coil and a power supply configured to provide high frequency oscillating current to the inductor coil.

The heater may comprise at least one resistive heating element. The heater may comprise a plurality of resistive heating elements. The resistive heating elements may be electrically connected in a parallel arrangement.

The aerosol-generating device comprises a power source for supplying power to the heater.

The aerosol-generating device comprises a controller configured to control the supply of power from the power source to the heater. The controller may be configured to cause the heater to controllably heat the aerosol-generating substrate compartment of the article during use. The controller may be configured to cause the heater to controllably heat the aerosol-generating substrate compartment of the article when the article is received within the heating chamber.

The aerosol-generating device may be configured so that the heater is arranged to externally heat the article. The aerosol-generating device may be configured so that the heater is arranged to externally heat aerosol-generating substrate in the aerosol-generating substrate compartment of the article.

The aerosol-generating device and the article may be configured such that the air intake of the article is located outside of the heating chamber of the aerosol-generating device when the article is received within the heating chamber of the aerosol-generating device.

One or more features of one aspect or embodiment described above may be combined with one or more features of another aspect of embodiment described above.

Below, there is provided a non-exhaustive list of non-limiting examples. Any one or more of the features of these examples may be combined with any one or more features of another example, or embodiment, or aspect described herein.

EX1: An article for generating an aerosol, the article comprising a body having a mouth end and a distal end, the body comprising: an aerosol-generating substrate compartment for holding an aerosol-generating substrate, the aerosol-generating substrate compartment being located towards the distal end of the body; an outer tube; an inner tube disposed within the outer tube; an air intake for providing fluid communication between the aerosol-generating substrate compartment and an exterior of the article; an air outlet for providing fluid communication between the aerosol-generating substrate compartment and the open mouth end of the body through the inner tube, wherein the inner tube and the outer tube are movable relative to one another between a first configuration and a second configuration, wherein in the first configuration the inner tube and the outer tube cooperate with one another to substantially prevent airflow through both the air intake and the air outlet.

EX2: An article according to EX1, wherein the air intake is provided on the outer tube.

EX3: An article according to EX1 or EX2, wherein the mouth end of the body is an open mouth end.

EX4: An article according to any one of EX1 to EX3, wherein the distal end of the body is a closed distal end.

EX5: An article according EX4, wherein the aerosol-generating substrate compartment is defined by the closed distal end of the body.

EX6: An article according to any one of EX1 to EX5, wherein the aerosol-generating substrate compartment comprises an aerosol-generating substrate.

EX7: An article according to any one of EX1 to EX6, wherein the inner tube comprises one or more sections, wherein adjacent sections of the inner tube have one or both of different external diameters and different internal diameters.

EX8: An article according to any one of EX1 to EX7, wherein the inner tube comprises a mouth end section located towards the mouth end of the inner tube, wherein the mouth end section has an external diameter that is substantially the same as an internal diameter of the outer tube.

EX9: An article according to any one of EX1 to EX8, wherein the inner tube comprises a mouth end section and a distal end section, wherein the distal end section has an external diameter that is smaller than an external diameter of the mouth end section.

EX10: An article according to any one of EX1 to EX9, wherein the inner tube has an open mouth end defining an open mouth end of the body.

EX11: An article according to any one of EX1 to EX10, wherein the air outlet is configured such that, when the inner tube and the outer tube are in the second configuration, air flows through the air outlet substantially longitudinally into the inner tube during use of the article.

EX12: An article according to any one of EX1 to EX11, wherein the air outlet is provided by one or more openings provided at a distal end face of the inner tube.

EX13: An article according to any one of EX1 to EX12, wherein the air outlet is provided by an opening of the inner tube, wherein the opening is at the distal end of the inner tube and is defined by a peripheral wall of the inner tube.

EX14: An article according to any one of EX1 to EX13, wherein the outer tube has a closed distal end defining a closed distal end of the body.

EX15: An article according to any one of EX1 to EX14, wherein the outer tube is formed from a substantially air-impermeable material.

EX16: An article according to any one of EX1 to EX15, wherein the air intake is configured such that, when the inner tube and the outer tube are in the second configuration, air flows substantially transversely into the outer tube during use of the article.

EX17: An article according to any one of EX1 to EX16, wherein the air intake comprises one or more openings provided through a peripheral wall of the outer tube.

EX18: An article according to any one of EX1 to EX17, wherein a ratio of the resistance to draw of the air intake to the overall resistance to draw of the article is at least 0.5.

EX19: An article according to any one of EX1 to EX18, wherein the inner tube and the outer tube are configured such that a space is defined between an internal surface of the outer tube and an external surface of the inner tube.

EX20: An article according to any one of EX1 to EX19, wherein when the inner tube and the outer tube are in the second configuration, a first airflow passageway of the article is defined between the air intake and the aerosol-generating substrate compartment.

EX21: An article according to EX20, wherein the first airflow passageway is external to the inner tube.

EX22: An article according to EX20 or EX21, wherein the first airflow passageway comprises one or more channels establishing fluid communication from the air intake to the aerosol-generating substrate compartment, wherein each channel is defined at least partially by a corresponding groove provided on an external surface of the inner tube or an internal surface of the outer tube.

EX23: An article according to any one of EX1 to EX22, wherein when the inner tube and the outer tube are in the second configuration, a second airflow passageway of the article is defined between the aerosol-generating substrate compartment and the open mouth end of the body.

EX24: An article according to EX23, wherein the second airflow passageway extends at least through the air outlet and at least through the inner tube.

EX25: An article according to EX23 or EX24, wherein when the inner tube and the outer tube are in the second configuration, the first airflow passageway is open to allow airflow through the air intake to the aerosol-generating substrate compartment via the first airflow passageway, and the second airflow passageway is open to allow airflow from the aerosol-generating substrate compartment to the open mouth end of the body via the second airflow passageway.

EX26: An article according to any one of EX1 to EX25, wherein the inner tube and the outer tube are movable longitudinally relative to one another.

EX27: An article according to any one of EX1 to EX26, wherein when the inner tube and the outer tube are in the first configuration, the inner tube obstructs the air intake to substantially prevent airflow through the air intake.

EX28: An article according to any one of EX1 to EX27, wherein when the inner tube and the outer tube are in the second configuration, the inner tube is spaced away from the air intake to allow airflow through the air intake.

EX29: An article according to any one of EX1 to EX28, wherein when the inner tube and the outer tube are in the second configuration, the inner tube is transversely spaced away from the air intake.

EX30: An article according to any one of EX1 to EX29, wherein the inner tube comprises a mouth end section configured to obstruct the air intake when the inner tube and the outer tube are in the first configuration.

EX31: An article according to any one of EX1 to EX30, wherein the inner tube comprises a mouth end section and one or more sections between the distal end of the inner tube and the mouth end section, and wherein the combined length of the one or more sections of the inner tube located between the distal end of the inner tube and the mouth end section of the inner tube is less than a length of the outer tube from an internal surface of a distal end wall of the outer tube to the air intake provided on the outer tube.

EX32: An article according to any one of EX1 to EX31, wherein the inner tube comprises a mouth end section, and when the inner tube and the outer tube are in the first configuration, the distal end of the mouth end section of the inner tube is located longitudinally between the distal end of the outer tube and the air intake.

EX33: An article according to any one of EX1 to EX32, wherein the inner tube comprises a mouth end section, and when the inner tube and the outer tube are in the second configuration,

the distal end of the mouth end section of the inner tube is located longitudinally between the air intake and the mouth end of the outer tube.

EX34: An article according to any one of EX1 to EX33, wherein when the inner tube and the outer tube are in the first configuration, the outer tube obstructs the air outlet to substantially prevent airflow through the air outlet.

EX35: An article according to any one of EX1 to EX34, wherein when the inner tube and the outer tube are in in the second configuration, the outer tube is spaced away from the air outlet to allow airflow through the air outlet.

EX36: An article according to any one of EX1 to EX35, wherein when the inner tube and the outer tube are in in the second configuration, the outer tube is longitudinally spaced away from the air outlet to allow airflow through the air outlet.

EX37: An article according to any one of EX1 to EX36, wherein the air outlet is provided through an open distal end of the inner tube, and wherein when the inner tube and the outer tube are in the first configuration, the distal end of the inner tube abuts an internal surface of the outer tube to substantially prevent airflow through the air outlet.

EX38: An article according to any one of EX1 to EX37, wherein the outer tube comprises a distal end wall, and wherein when the inner tube and the outer tube are in the first configuration, the distal end of the inner tube abuts the distal end wall of the outer tube.

EX39: An article according to any one of EX1 to EX38, wherein when the inner tube and the outer tube are in the second configuration, the inner tube and the outer tube are configured to allow airflow through both the air intake and the air outlet.

EX40: An article according to any one of EX1 to EX39, wherein when the inner tube and the outer tube are in the second configuration, the inner tube is spaced away from the air intake and the outer tube is spaced away from the air outlet.

EX41: An article according to any one of EX1 to EX40, wherein the inner tube and the outer tube are movable relative to one another to an intermediate configuration between the first configuration and the second configuration.

EX42: An article according to EX41, wherein in the intermediate configuration, the inner tube and the outer tube cooperate with one another to partially obstruct the air intake.

EX43: An article according to EX41 or EX42, wherein in the intermediate configuration, the resistance to draw of the article may be between the resistance to draw of the article when the inner tube and the outer tube are in the first configuration and the resistance to draw of the article when the inner tube and the outer tube are in the second configuration.

EX44: An article according to EX43, comprising a substantially air-impermeable wrapper comprising a cover portion, the cover portion overlying the air intake to substantially prevent the ingress of air into the article through the air intake, wherein the article is configured such that the cover portion is movable away from the air intake.

EX45: An aerosol-generating system comprising: an article according to any one of EX1 to EX45 and an aerosol-generating device, the aerosol-generating device comprising: a heating element; a power supply for supplying electrical power to the heating element; and a controller configured to control a supply of power from the power supply to the heating element.

The present invention will be further described, by way of example only, with reference to the accompanying drawings, in which:

Figure 1 shows a schematic side sectional view of an article;

Figure 2 shows a schematic side sectional view of a first example of an article in accordance with the first aspect of the invention, the article being in a first configuration; and

Figure 3 shows a schematic side sectional view of an example aerosol-generating system including the article of Figure 2 when in a second configuration and when inserted into an aerosol-generating device.

Figure 1 shows a schematic illustration of an article 100 for generating an aerosol. The article 100 has a body 102. The body 102 has a mouth end 104 and a distal end 106. In this example, the mouth end 104 of the body 102 is open, and the distal end 106 of the body 102 is closed. In other words, air can flow out of the body 102 at the mouth end 104, but air cannot easily flow out of the distal end 106 of the body 102.

The body 102 has an outer tube 108 and an inner tube 110. The outer tube 108 has an internal surface 112, and the inner tube 110 has an external surface 114. The inner tube 110 is disposed inside of the outer tube 108. A space 116 is defined between an internal surface 112 of the outer tube 108 and an external surface 114 of the inner tube 110. In the example of Figure 1, the space is an annular space 116.

The body 102 has an aerosol-generating substrate compartment 118 located towards the distal end 106 of the body 102. In the example of Figure 1, the aerosol-generating substrate compartment 118 is defined by the annular space 116 at the closed distal end 106 of the body 102. The aerosol-generating substrate compartment 118 is a cavity that is suitable for holding a quantity of an aerosol-generating substrate, such as a solid aerosol-generating substrate. In this example, the aerosol-generating substrate compartment 118 is holding a quantity of a solid aerosol-generating substrate 120.

The outer tube 108 has a generally cylindrical shape. The outer tube 108 comprises a distal end wall 109 at the distal end of the outer tube 108.

The inner tube 110 may be formed from one or more sections. In the example of Figure 1, the inner tube 110 has a mouth end section 124, a distal end section 122 and a middle section 126. The three sections 122, 124, 126 of the inner tube 108 are formed individually and connected together to form a single piece. In this example, the mouth end section 124 is located at the mouth end 104 of the body 102, the distal end section 122 is located at the distal end of the inner tube

110 and towards the distal end 106 of the body 102, and the middle section 126 extends between the mouth end section 124 and the distal end section 122.

The mouth end section 124 of the inner tube 110 has an external diameter that is substantially the same as an internal diameter of the outer tube 108. Consequently, at the mouth end section 124, the internal surface 112 of the outer tube 108 and the external surface 114 of the inner tube 110 abut with one another so that air is substantially prevented from escaping from between the inner tube 110 and outer tube 108 at the mouth end 104.

The distal end section 122 of the inner tube 110 has an external diameter that is much smaller than the external diameter of the mouth end section 122. The distal end section 122 of the inner tube 110 has an external diameter that is much smaller than the internal diameter of the outer tube 108. Consequently, at the distal end of the inner tube 110, the internal surface 112 of the outer tube 108 and the external surface 114 of the inner tube 110 are spaced apart from one another.

The middle section 126 of the inner tube 110 has an external diameter that is in between the external diameter of the mouth end section 124 and the external diameter of the distal end section 122. The external diameter of the middle section 126 is smaller than the internal diameter of the outer tube 108.

The annular space 116 is provided in the space defined between the internal surface 112 of the outer tube 108 and the external surfaces of both of the distal end section 122 and the middle section 126.

The body 102 has an air intake 128. In the example of Figure 1, the air intake is a plurality of air intake holes provided in a wall of the outer tube 108. The air intake holes are arranged in a row around the circumference of the outer tube 108.

When a user draws on the mouth end 104 of the article, substantially all of the air drawn into the article is through the air intake 128.

The body 102 has an air outlet 132. In the example of Figure 1, the air outlet 132 is a plurality of air outlet holes provided in a wall of the inner tube 110.

An airflow passageway is defined extending between the air intake 128 and the open mouth end 104 of the body 102. The airflow passageway extends from the air intake 128, through the aerosol-generating substrate compartment 118, through the air outlet 132 and to the open mouth end 104.

In the example of Figure 1, the airflow passageway comprises a first airflow passageway 130 and a second airflow passageway 134.

The first airflow passageway 130 extends between the air intake 128 and the aerosol-generating substrate compartment 118. The first airflow passageway 130 passes through the annular space 116 defined between the internal surface 112 of the outer tube 108 and the external

surface 114 of the inner tube 110. In this way, the air intake 128 provides fluid communication between the aerosol-generating substrate compartment 118 and an exterior of the article 100.

The second airflow passageway 134 extends between the aerosol-generating substrate compartment 118 and the open mouth end 104 of the body 102. The second airflow passageway 134 passes through the air outlet 132, through an interior space defined by the inner tube 110, and to the open mouth end 104. In this way, the air outlet 132 provides fluid communication between the aerosol-generating substrate compartment 118 and the open mouth end 104 of the body 102.

Figure 2 shows a schematic illustration of a first example of an article 200 for generating an aerosol.

The article 200 has a body 202. The body 202 has a mouth end 204 and a distal end 206. In this example, the mouth end 204 of the body 202 is open, and the distal end 206 of the body 202 is closed. In other words, air can flow out of the body 202 at the mouth end 204, but air cannot easily flow out of the distal end 206 of the body 202.

The body 202 has an outer tube 208 and an inner tube 210. The outer tube 208 has an internal surface 212, and the inner tube 210 has an external surface 214. The inner tube 210 is disposed inside of the outer tube 208. A space 216 is defined between an internal surface 212 of the outer tube 208 and an external surface 214 of the inner tube 210. In the example of Figure 2, the space is an annular space 216.

The body 202 has an aerosol-generating substrate compartment 218 located towards the distal end 206 of the body 202. In the example of Figure 2, the aerosol-generating substrate compartment 218 is defined by the annular space 216 at the closed distal end 206 of the body 202. The aerosol-generating substrate compartment 218 is a cavity that is suitable for holding a quantity of an aerosol-generating substrate, such as a solid aerosol-generating substrate. In this example, the aerosol-generating substrate compartment 218 is holding a quantity of a solid aerosol-generating substrate 220.

The outer tube 208 has a generally cylindrical shape. The outer tube 208 comprises a distal end wall 209 at the distal end of the outer tube 208.

The inner tube 210 may be formed form one or more sections. In the example of Figure 2, the inner tube 210 has a mouth end section 224, a distal end section 222 and a middle section 226. The three sections 222, 224, 226 of the inner tube 208 are formed individually and connected together to form a single piece. In this example, the mouth end section 224 is located at the mouth end 204 of the body 202, the distal end section 222 is located at the distal end 206 of the inner tube 210, and the middle section 226 extends between the mouth end section 222 and the distal end section 224.

The mouth end section 224 of the inner tube 210 has an external diameter that is substantially the same as an internal diameter of the outer tube 208. Consequently, at the mouth

end section 224, the internal surface 212 of the outer tube 208 and the external surface 214 of the inner tube 210 abut with one another so that air is substantially prevented from escaping from between the inner tube 210 and outer tube 208 at the mouth end 204.

The distal end section 222 of the inner tube 210 has an external diameter that is much smaller than the external diameter of the mouth end section 222. The distal end section 222 of the inner tube 210 has an external diameter that is much smaller than the internal diameter of the outer tube 208. Consequently, at the distal end section 222, the internal surface 212 of the outer tube 208 and the external surface 214 of the inner tube 210 are spaced apart from one another.

The middle section 226 of the inner tube 210 has an external diameter that is in between the external diameter of the mouth end section 222 and the external diameter of the distal end section 224. The external diameter of the middle section 226 is smaller than the internal surface 212 of the outer tube 208.

The annular space 216 is provided in the space defined between the internal surface 212 of the outer tube 208 and the external surfaces of the distal end section 222 and the middle section 226.

The body 202 has an air intake 228. In the example of Figure 2, the air intake is a plurality of air intake holes provided in a wall of the outer tube 208. The air intake holes are arranged in a row around the circumference of the outer tube 208.

The body 202 has an air outlet 232. In the example of Figure 2, the air outlet 232 is provided by an opening of the inner tube 208 at the distal end face of the inner tube 208.

Figure 2 shows the article 200 with the inner tube 210 and the outer tube 208 in the first configuration, wherein the inner tube 210 and the outer tube 208 cooperate to prevent airflow through both the air intake 228 and the air outlet 208.

In the first configuration, the inner tube 210 is located in the outer tube 208 and the distal end of the inner tube 208 abuts the distal end wall 209 of the outer tube 208. The distal end wall 209 of the outer tube 208 therefore covers the air outlet 232. This configuration and cooperation of the air outlet 232 and the distal end wall 209 of the outer tube 208 substantially prevents air from flowing through the air outlet 232.

In the first configuration, the mouth end section 224 of the inner tube 210 protrudes out of the mouth end of the outer tube 208 while also extending beyond the air intake 228 provided on the outer tube 208. In particular, the distal end of the mouth end section 224 of the inner tube 210 is located longitudinally between the distal end of the outer tube 208 and the air intake 228. The mouth end section 224 of the inner tube 210 therefore obstructs the air intake 228. This configuration and cooperation of the mouth end section 224 of the inner tube 210 and the air inlet 228 substantially prevents air from flowing through the air intake 228.

The length of the inner tube 210 is greater than the length of the outer tube 208.

The combined length of the distal end section 222 and middle section 226 of the inner tube 210 is less than the distance from the distal end of the outer tube 210 and the air intake 228.

Figure 3 shows a schematic illustration of the article 200 when the outer tube 208 and the inner tube 210 are in the second configuration. The article 200 has the same features as are described above with reference to Figure 2.

To move the outer tube 208 and the inner tube 210 between the first configuration and the second configuration, the user may slide the inner tube 210 longitudinally relative to the outer tube 208; for example, the user may pull on the inner tube 210.

In the second configuration, the inner tube 210 protrudes out of the outer tube 210 by a greater extent than when the inner tube 210 and the outer tube 208 are in the first configuration.

In the second configuration, the inner tube 210 and the outer tube 208 cooperate to allow airflow through both the air intake 228 and the air outlet 232. In particular, in the second configuration, the distal end wall 209 does not obstruct the air outlet 232, and the mouth end section 224 of the inner tube 210 does not obstruct the air intake 228.

In the second configuration, the distal end of the mouth end section 224 of the inner tube 210 is located longitudinally between the air intake 228 and the mouth end of the outer tube 208. This configuration of the mouth end section 224 of the inner tube 210 and the air intake 228 allows airflow through the air intake 228.

In the second configuration, a first airflow passageway 230 is defined between the air intake 228 and the aerosol-generating substrate compartment 218. In the example shown in Figure 3, the first airflow passageway 230 is open to allow air external to the article 200 to flow through the air intake 228 and to the aerosol-generating substrate compartment 218. In this way, the air intake 228 provides fluid communication between the aerosol-generating substrate compartment 218 and an exterior of the article 200.

In the second configuration, the inner tube 210 is located in the outer tube 2008 and the distal end of the inner tube 208 does not abut the distal end wall 209. Instead, in the second configuration, the distal end of the inner tube 208 is spaced away from the distal end wall 209 of the outer tube 208. Accordingly, the air outlet 232 is spaced away from the distal end wall 209 of the outer tube 208. This configuration of the air outlet 232 and the distal end wall 209 of the outer tube 208 allows airflow through the air outlet 232.

In the second configuration, a second airflow passageway 234 is defined between the aerosol-generating substrate compartment 218 and the open mouth end 204 of the body 202. The second airflow passageway 234 passes through the air outlet 232, through an interior space defined by the inner tube 210, and to the open mouth end of 204 of the body 202. In the example shown in Figure 3, the second airflow passageway 234 is open to allow one or both of air and aerosol form the aerosol-generating substrate compartment to flow through the air outlet 232 to the open mouth end 204 of the body 202. In this way, the air outlet 232 provides fluid

communication between the aerosol-generating substrate compartment 218 and the open mouth end 204 of the body 202.

Figure 3 shows an aerosol-generating system 300 comprising the article 200 (in the second configuration) inserted in an aerosol-generating device 400.

The aerosol-generating device 400 comprises a housing extending between a first end and a second end. The housing has a peripheral wall 410. The peripheral wall 410 defines a hating chamber for receiving the article 200. The heating chamber is defined by a closed first end and an open second end. The second end of the heating chamber is located at the second end of the aerosol-generating device 400. In use, the article 200 is received through the second end of the heating chamber and may abut the first end of the heating chamber.

When the article 200 is received in the heating chamber, the air intake 228 of the article 200 remains outside of the heating chamber. The air intake 228 being outside of the heating chamber allows for air to be easily drawn into the article 200 through the air intake 228.

The aerosol-generating device 400 also includes a heater 412 and a power source 414 for supplying power to the heater 412. The aerosol-generating device 400 also includes a controller 416 to control the supply of power from the power source 414 to the heater 412. The controller 416 is configured to cause the heater 412 to controllably heat aerosol-generating substrate 220 in the aerosol-generating substrate compartment 218 of the article 200 during use, when the article 200 is received within the heating chamber.

In the example shown in Figure 3, the heater 412 is arranged to externally heat aerosol-generating substrate 220 in the aerosol-generating substrate compartment 218 of the article 200.

The specific embodiments and examples described above illustrate, but do not limit, the invention. It is to be understood that other embodiments of the invention may be made and the specific embodiments and examples described herein are not exhaustive.

CLAIMS:

1. An article for generating an inhalable aerosol upon heating, the article comprising:
a body having an open mouth end and a closed distal end, the body comprising:
an aerosol-generating substrate compartment for holding an aerosol-generating substrate, the aerosol-generating substrate compartment being located towards the closed distal end of the body;
an outer tube;
an inner tube disposed within the outer tube;
an air intake provided on the outer tube, the air intake for providing fluid communication between the aerosol-generating substrate compartment and an exterior of the article;
an air outlet for providing fluid communication between the aerosol-generating substrate compartment and the open mouth end through the inner tube,
wherein the inner tube and the outer tube are movable relative to one another between a first configuration and a second configuration,
wherein in the first configuration the inner tube and the outer tube cooperate with one another to substantially prevent airflow through both the air intake and the air outlet, and
wherein in the first configuration the outer tube obstructs the air outlet to substantially prevent airflow through the air outlet.

2. An article according to claim 1, wherein in the first configuration the inner tube obstructs the air intake to substantially prevent airflow through the air intake.

3. An article according to claim 1 or 2, wherein the inner tube comprises a mouth end section configured to obstruct the air intake when the inner tube and the outer tube are in the first configuration.

4. An article according to claim 3, wherein the mouth end section has an external diameter substantially the same as an internal diameter of the outer tube.

5. An article according to any one of claims 1 to 4, wherein the air outlet is provided by one or more openings provided at the distal end face of the inner tube.

6. An article according to any one of claims 1 to 5, wherein the outer tube comprises a distal end wall, and wherein in the first configuration the distal end of the inner tube abuts the distal end wall of the outer tube.

7. An article according to any one of claims 1 to 6, wherein in the second configuration the inner tube and the outer tube are configured to allow airflow through both the air intake and the air outlet.

8. An article according to any one of claims 1 to 7, wherein in the second configuration the inner tube is spaced away from the air intake and the outer tube is spaced away from the air outlet.

9. An article according to any one of claims 1 to 8, wherein the inner tube and the outer tube are movable relative to one another to an intermediate configuration between the first configuration and the second configuration, and wherein in the intermediate configuration the resistance to draw of the article is between the resistance to draw of the article when the inner tube and the outer tube are in the first configuration and the resistance to draw of the article when the inner tube and the outer tube are in the second configuration.

10. An article according to any one of claims 1 to 9, wherein the inner tube comprises a section having an external diameter less than an internal diameter of the outer tube.

11. An article according to any one of claims 1 to 10, wherein the outer tube has a substantially constant internal diameter along the entire length of the outer tube.

12. An article according to any one of claims 1 to 11, wherein the outer tube has a closed distal end defining the closed distal end of the body, and the inner tube has an open mouth end defining the open mouth end of the body.

13. An article according to any one of claims 1 to 12, further comprising an aerosol-generating substrate located in the aerosol-generating substrate compartment.

14. An article according to any one of claims 1 to 13, wherein the body of the article extends from the distal end of the article towards the mouth end of the article.

15. An aerosol-generating system comprising: the article of any of claims 1 to 14 and
an aerosol generating device, the aerosol-generating device comprising:

a heating element;

a power supply for supplying electrical power to the heating element; and

a controller configured to control a supply of power from the power supply to the heating element.

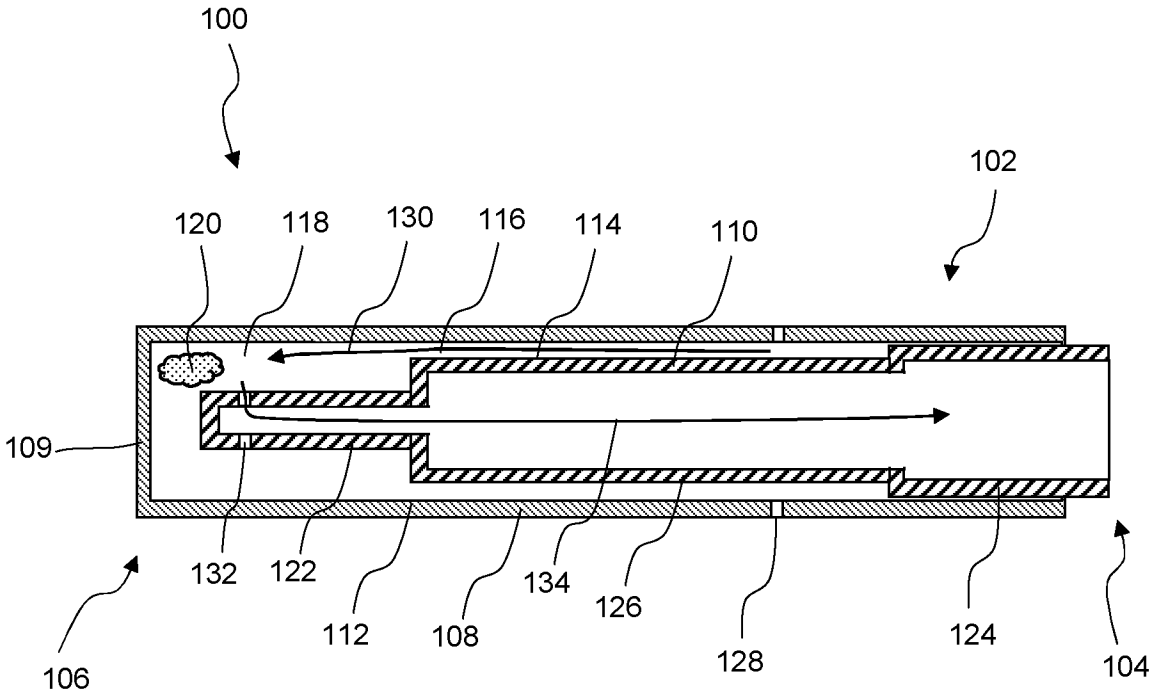

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Figure 1

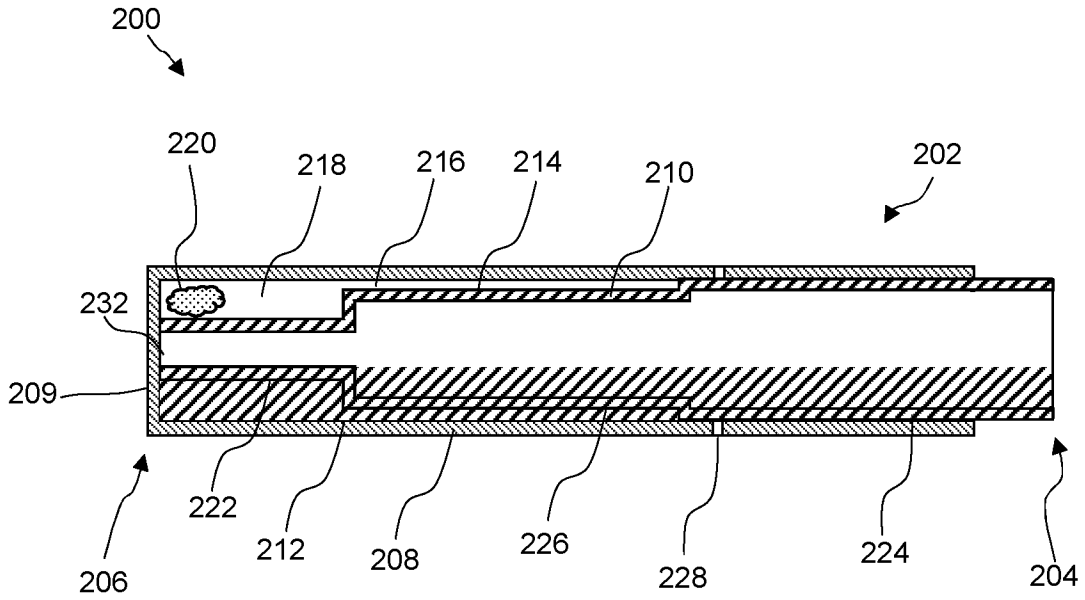


Figure 2

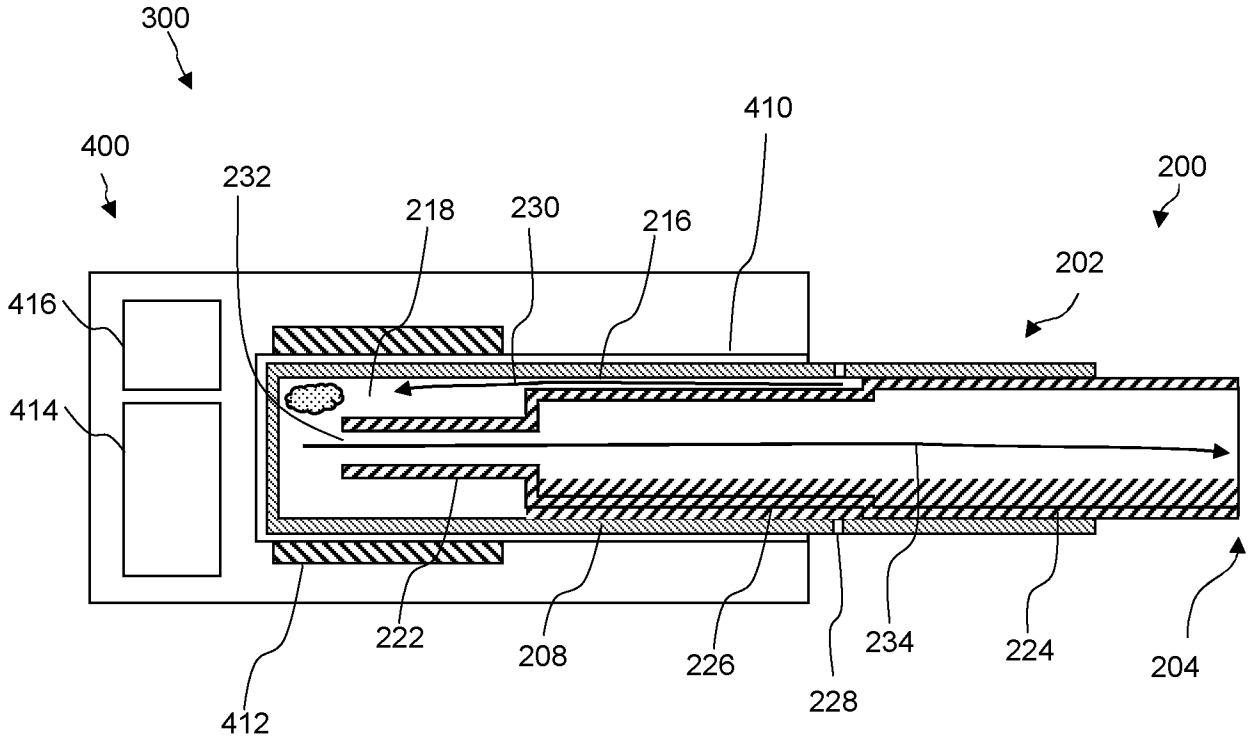


Figure 3

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2024/064439

A. CLASSIFICATION OF SUBJECT MATTER

INV. A24F40/485 A24F40/42 A24D1/20
ADD. A24F40/20

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A24D A24F A61M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

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[x] Further documents are listed in the continuation of Box C.

[x] See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
24 July 2024	19/08/2024

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