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(54) **RESERVOIR FOR AEROSOL DELIVERY DEVICES**

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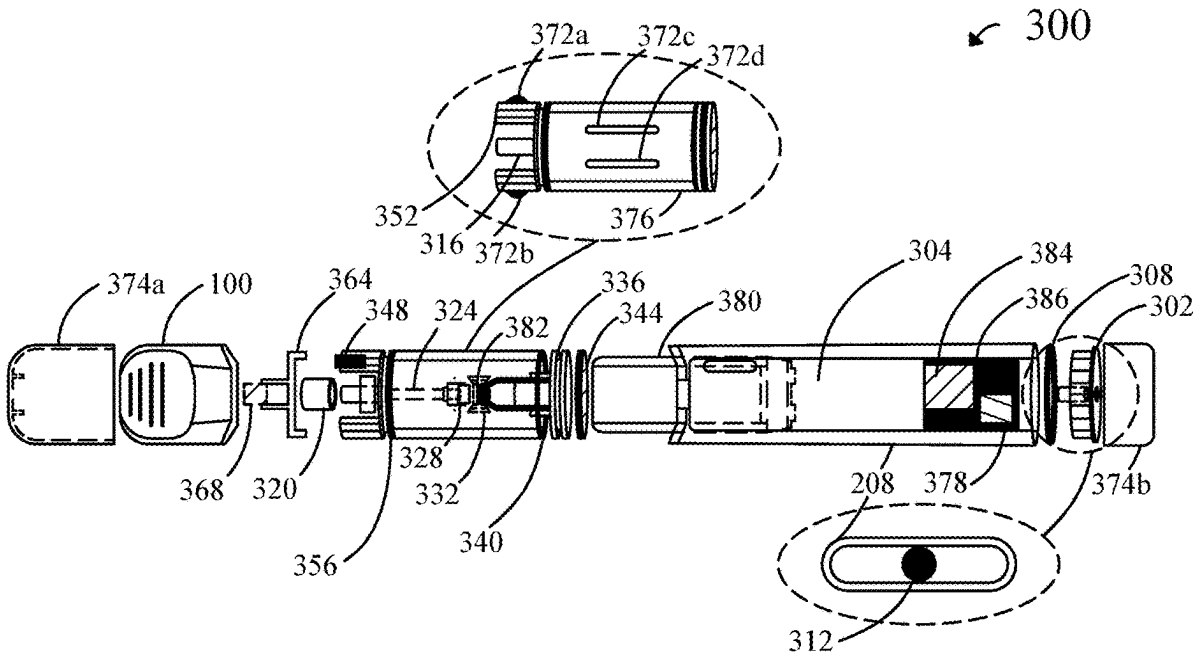
(52) **U.S. Cl.**

CPC ***A24F 40/485*** (2020.01); *A24F 40/10* (2020.01); *A24F 40/51* (2020.01); *A24F 40/65* (2020.01); *A24F 40/70* (2020.01)

(57) **ABSTRACT**

This disclosure is generally directed to mouthpieces, aerosol delivery devices, and systems including mouthpieces and aerosol delivery devices. A mouthpiece may include an aerosol device attachment end, an aerosol release end, a spacer, and one or more grip surfaces. A grip surface includes a concave region including one or more ridges.



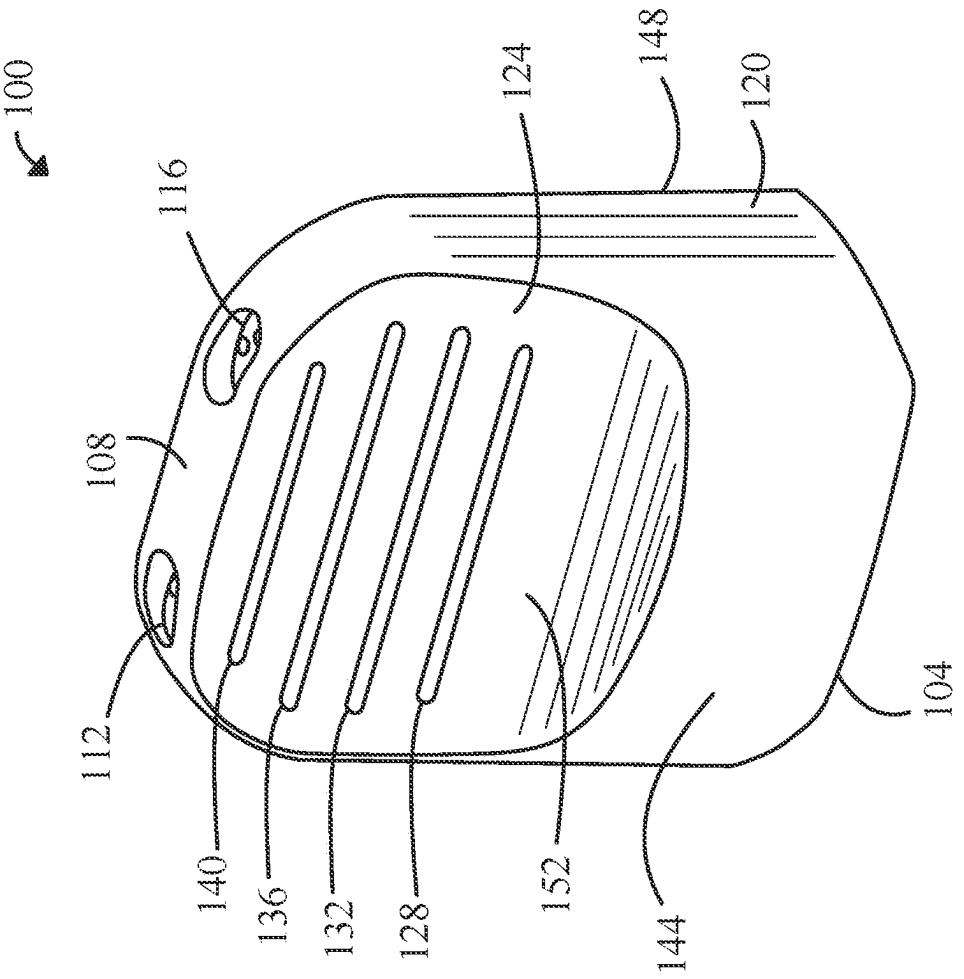


FIG. 1

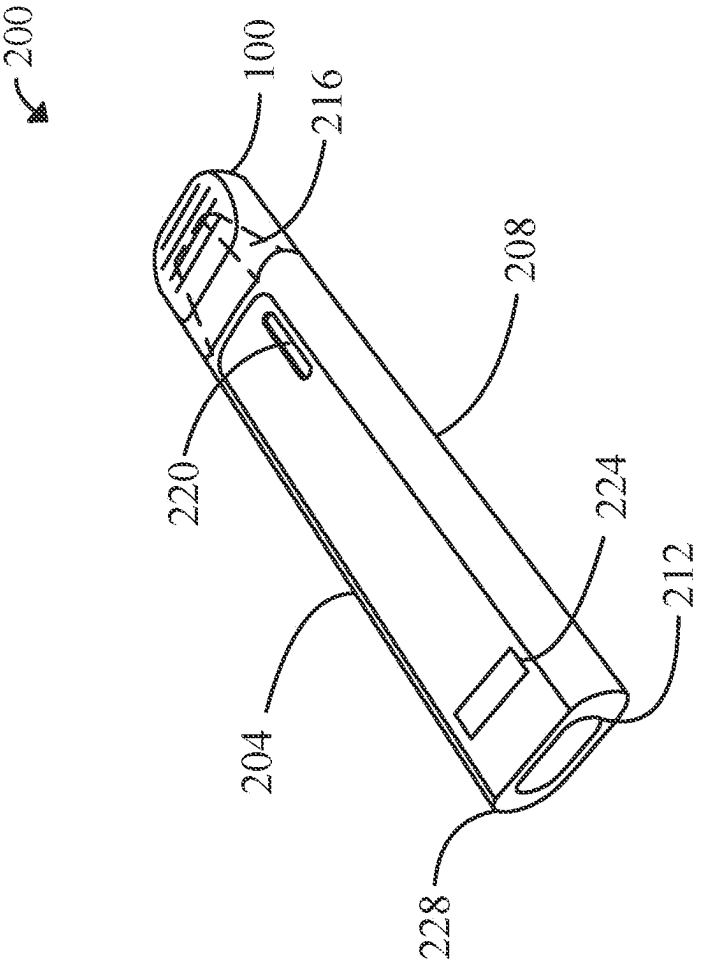
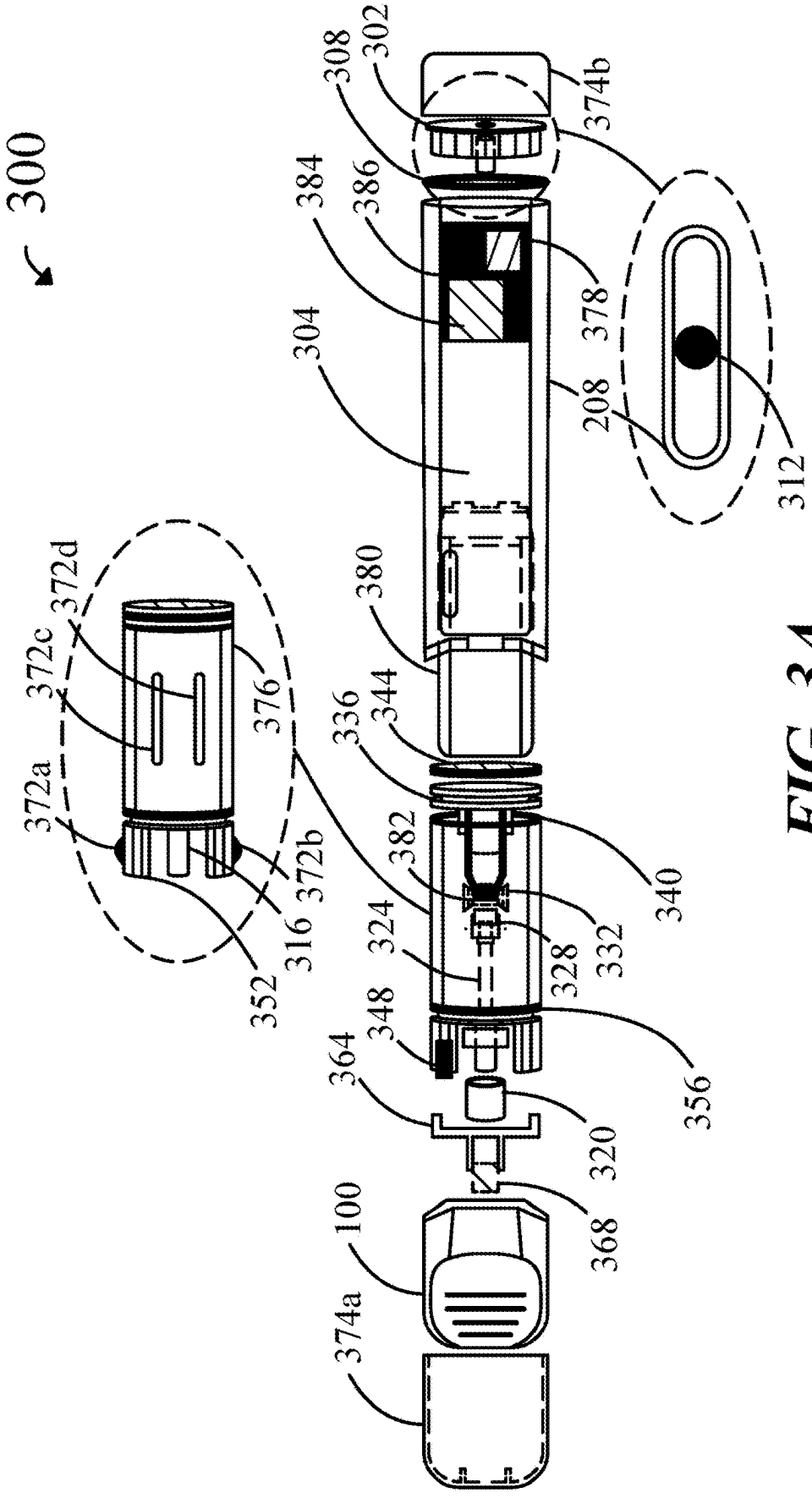


FIG. 2


300
308
302
374b
384
386
378
304
208
312
380
372d
372c
376
372a
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344
372b
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340
316
324
328
332
352
348
364
356
320
368
100
374a

FIG. 3A

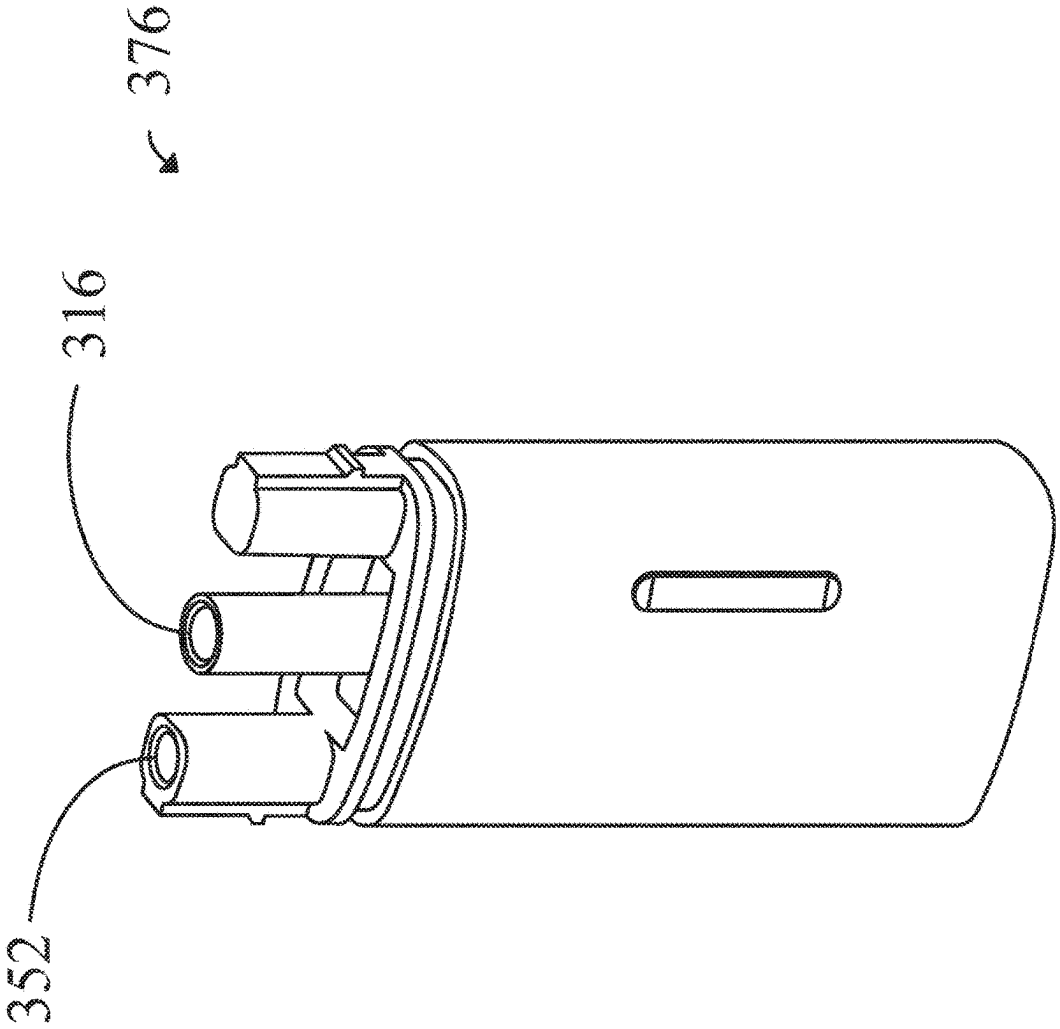

FIG. 3B

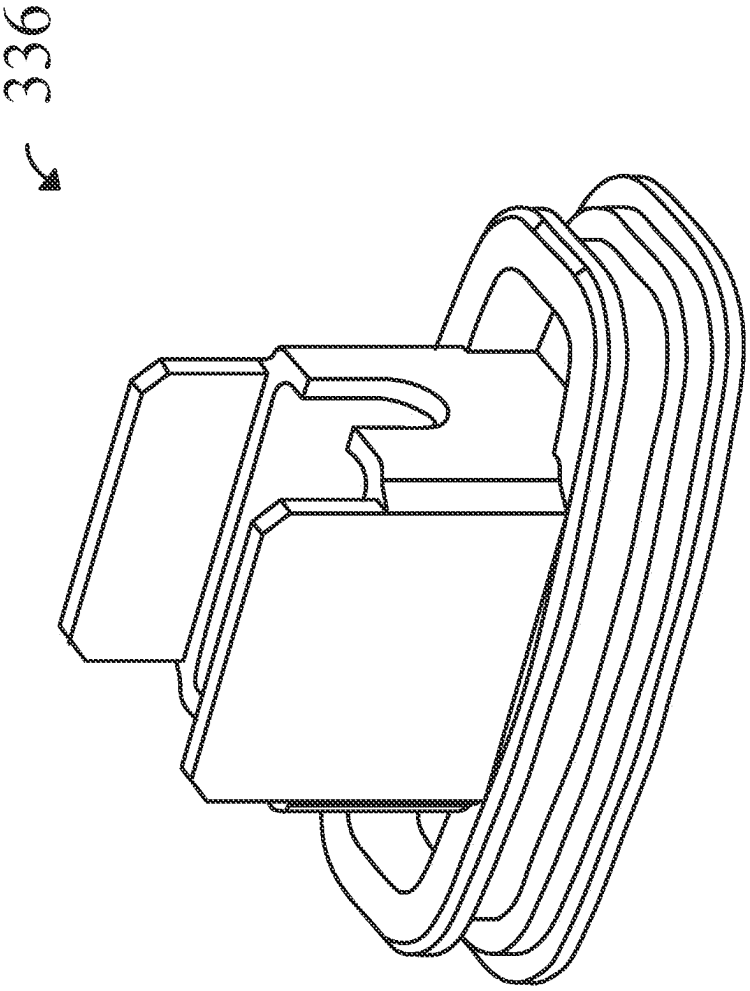

FIG. 3C

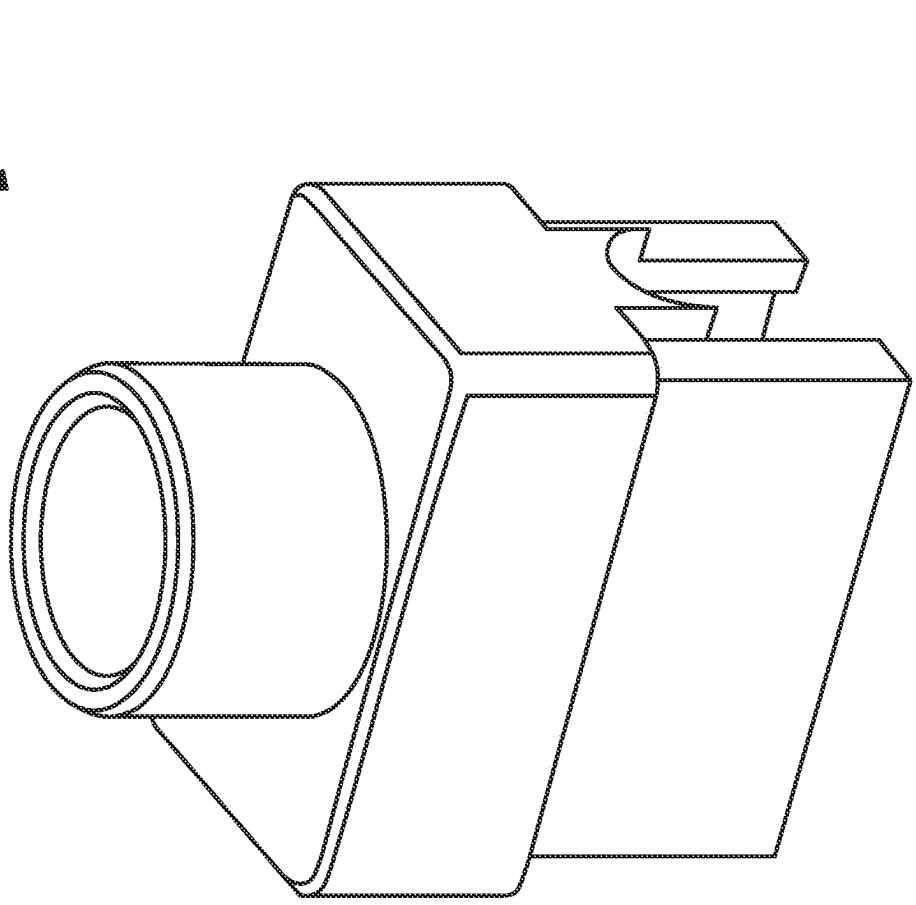

FIG. 3D

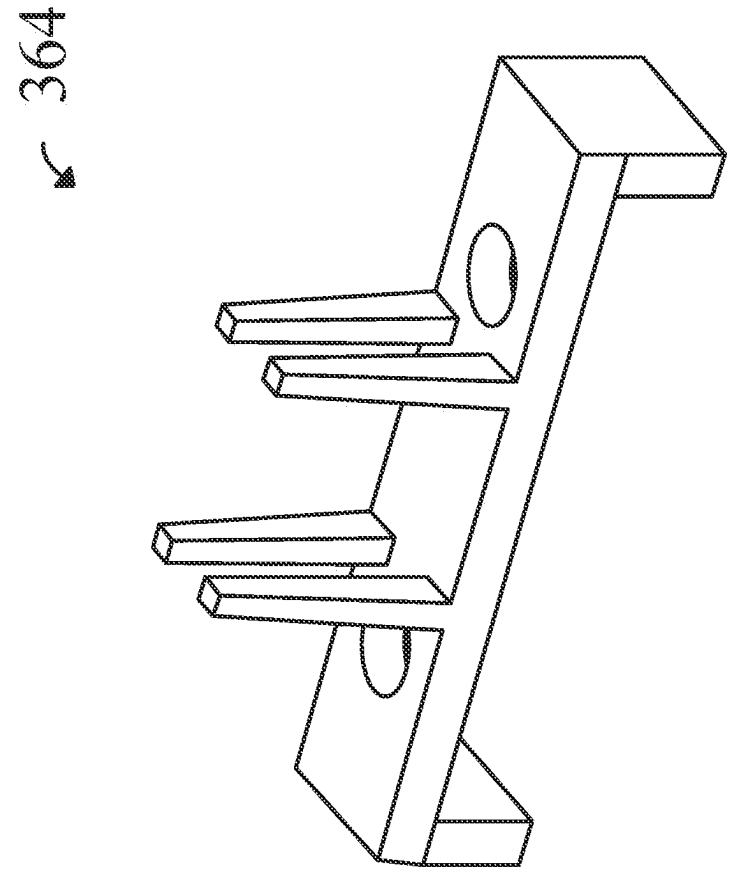

FIG. 3E

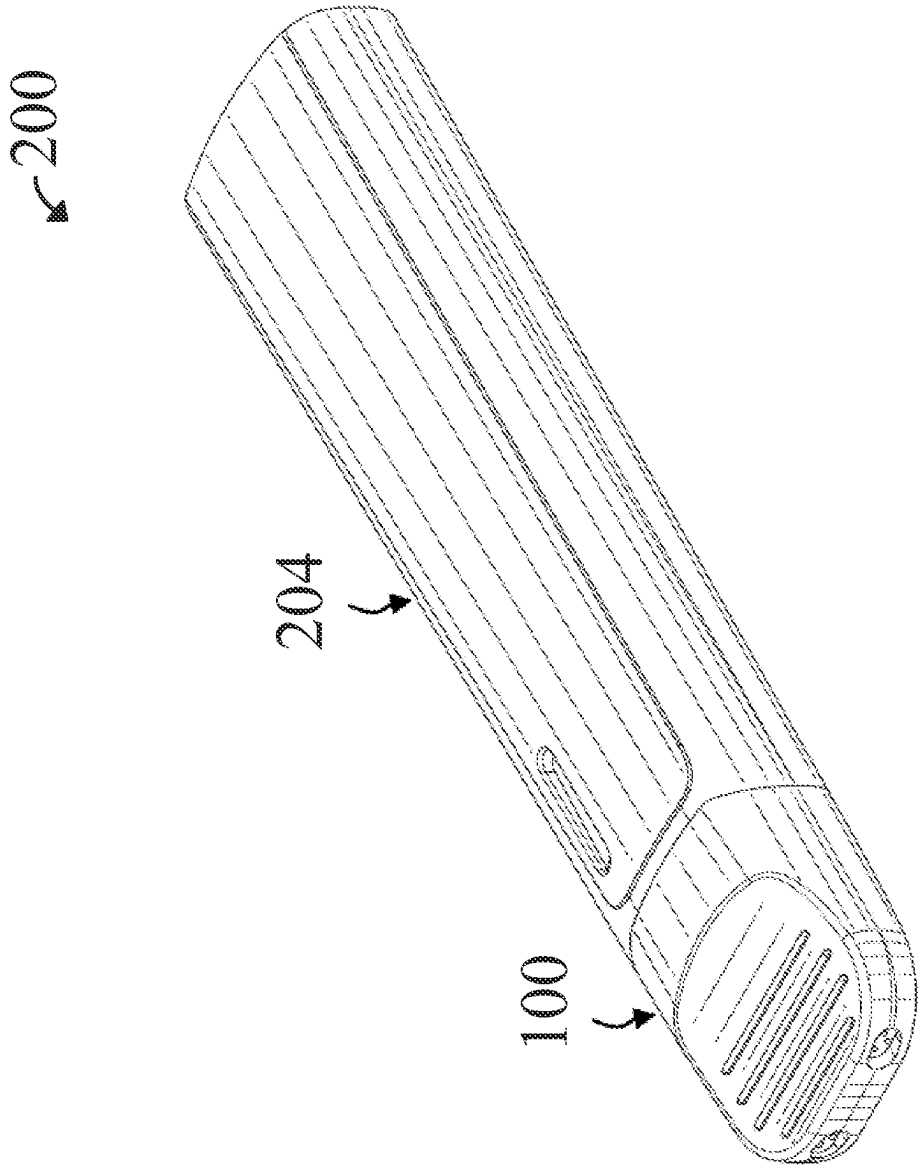

FIG. 4

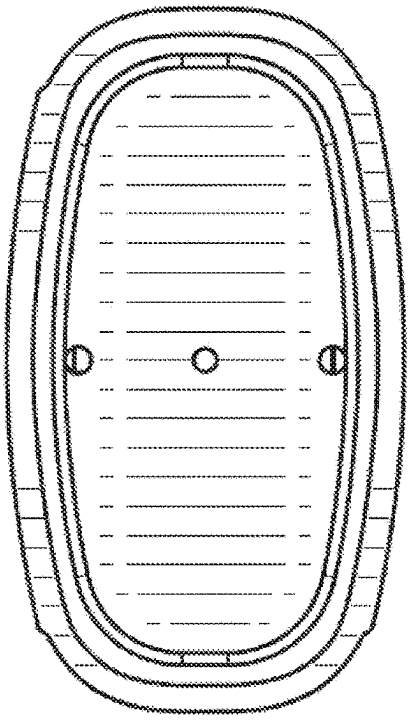

FIG. 5

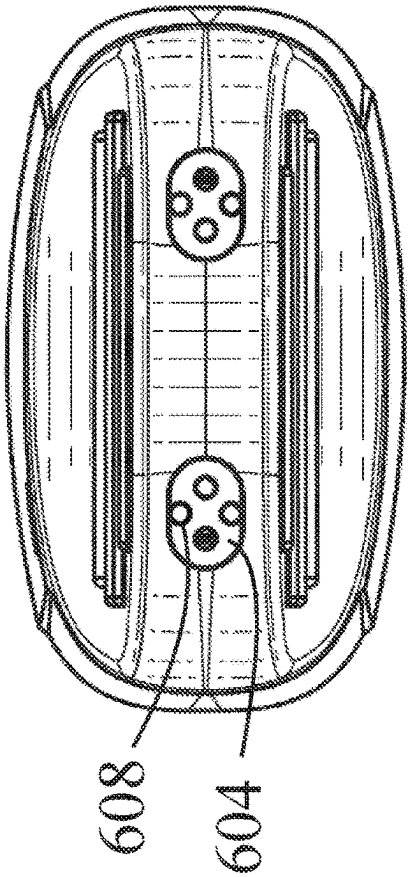

FIG. 6

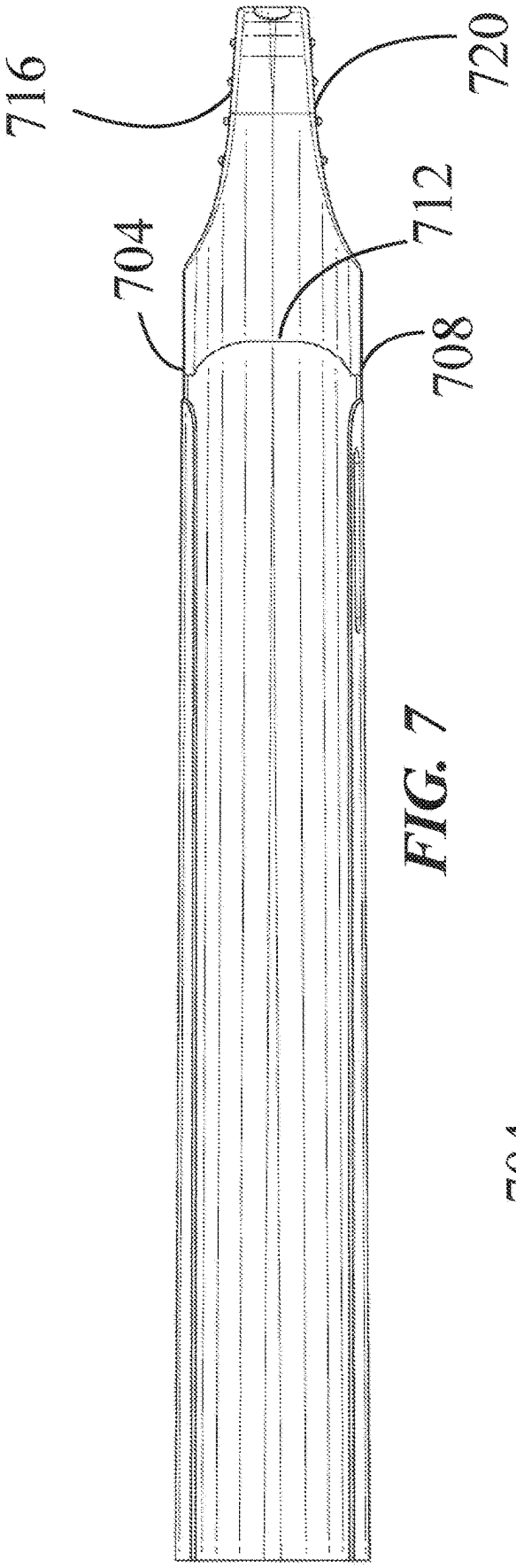

FIG. 7

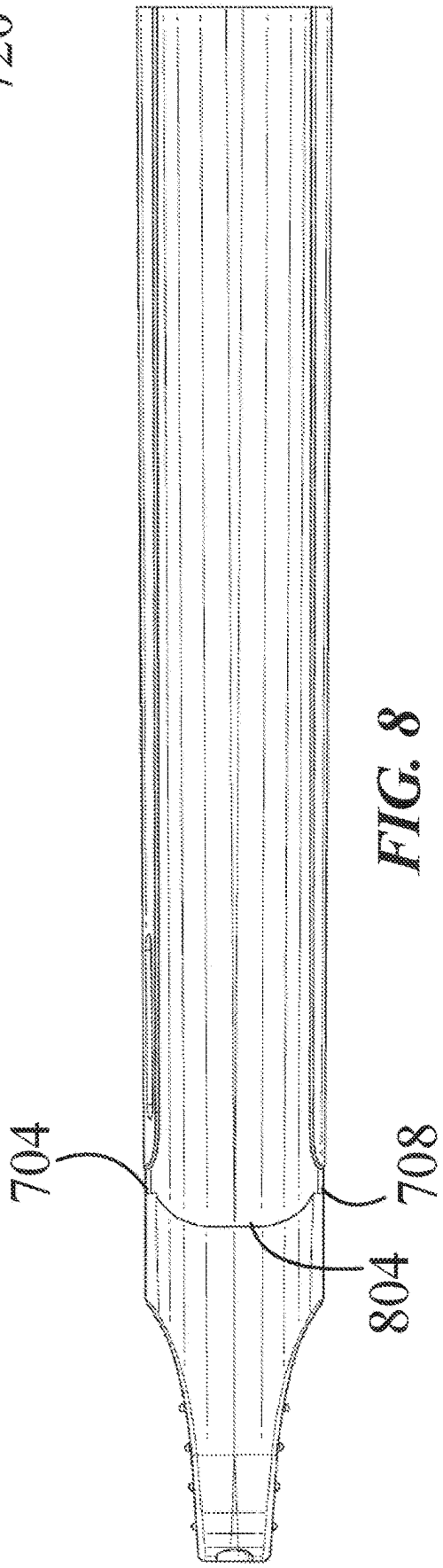

FIG. 8

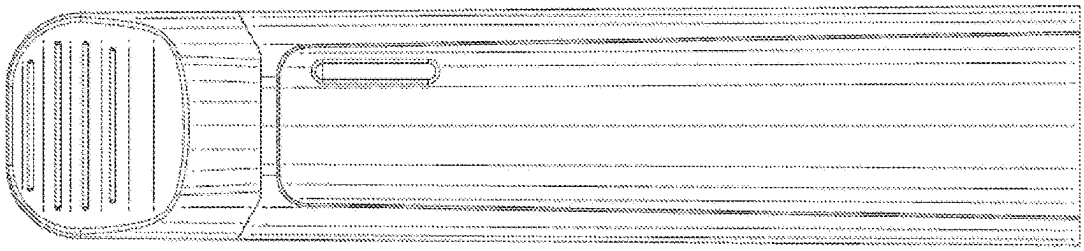

FIG. 10

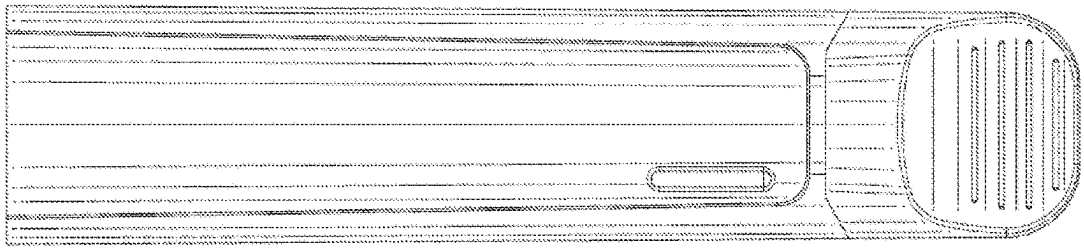

FIG. 9

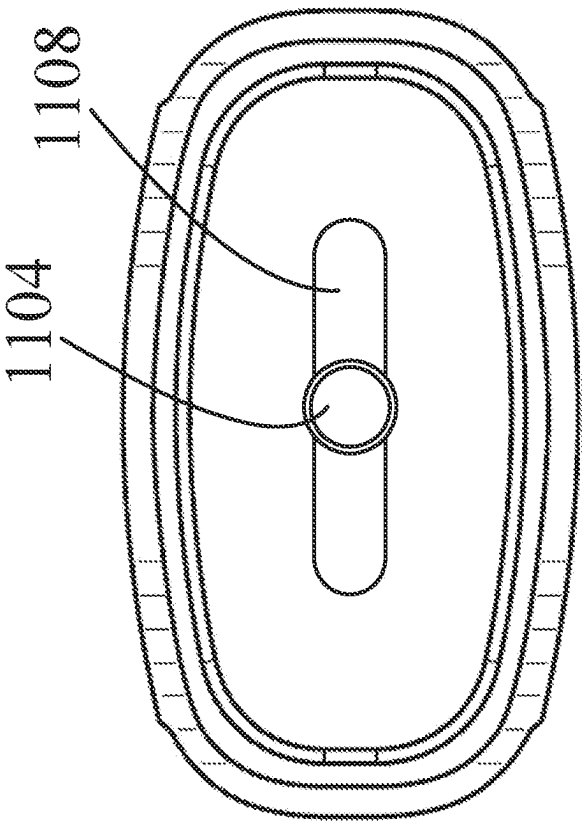

FIG. 11

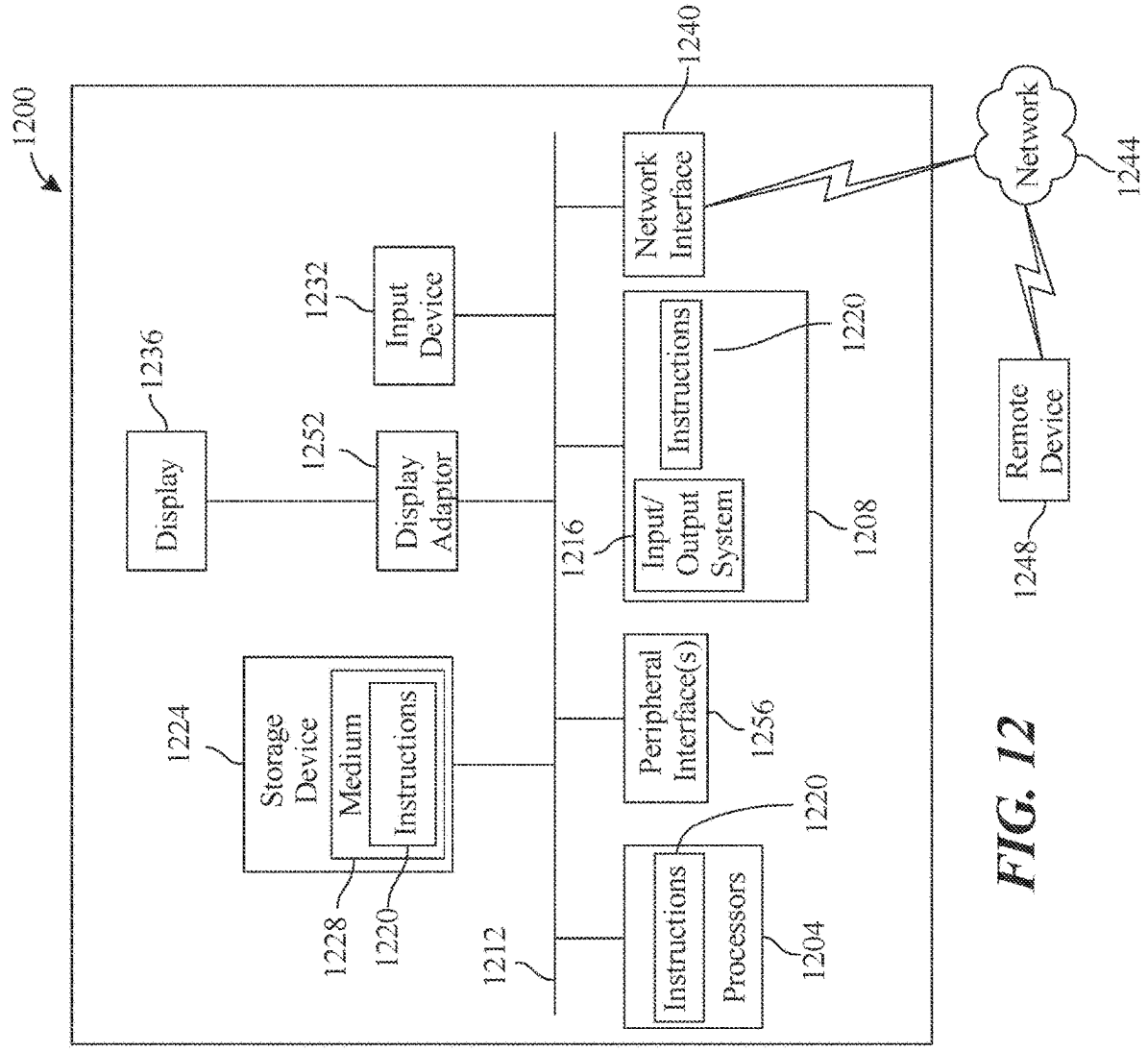
1200
1240
Network Interface
Network
1244
1232
Input Device
1236
Display
1252
Display Adaptor
1216
Input/ Output System
Instructions
1220
1208
1248
Remote Device
1224
Storage Device
Medium
Instructions
1228
1220
Peripheral Interface(s)
1256
1212
Instructions
Processors
1220
1204

FIG. 12

RESERVOIR FOR AEROSOL DELIVERY DEVICES

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation of U.S. patent application Ser. No. 18/370,272, filed on Sep. 19, 2023, and titled "RIDGED MOUTHPIECE FOR AEROSOL DELIVERY DEVICES", which claims the benefit U.S. Provisional Patent Application Ser. No. 63/407,849, filed on Sep. 19, 2022, and titled "RIDGED MOUTHPIECE FOR AEROSOL DELIVERY DEVICES," and claims the benefit of priority of U.S. Provisional Patent Application Ser. No. 63/407,859, filed on Sep. 19, 2022, and titled "RIDGED MOUTHPIECE FOR AEROSOL DELIVERY DEVICES," both of which is incorporated by reference herein in its entirety.

FIELD OF THE INVENTION

[0002] The present invention generally relates to the field of vaporizers. In particular, the present invention is directed to a ridged mouthpiece for aerosol delivery devices.

BACKGROUND

[0003] Existing vaporizers may be clunky, prone to being dropped, and prone to slipping during use. In addition, existing vaporizers may not consider the needs of users with disabilities such that these negative design factors are amplified when used by users with disabilities.

SUMMARY OF THE DISCLOSURE

[0004] In an aspect, a mouthpiece is described. The mouthpiece includes an aerosol device attachment end configured to connect to an aerosol delivery device, an aerosol release end positioned on the opposite side of the mouthpiece from the aerosol device attachment end, wherein the aerosol release end is configured to provide an aerosol to a user through one or more apertures within the aerosol release end, a top surface, wherein the top surface comprises a first concave gripping surface includes one or more top ridges, and a bottom surface, wherein the bottom surface includes a second concave gripping surface including one or more bottom ridges.

[0005] In another aspect, a system is described. The system includes an aerosol delivery device and a mouthpiece. The mouthpiece includes an aerosol device attachment end configured to connect to an aerosol delivery device, an aerosol release end positioned on the opposite side of the mouthpiece from the aerosol device attachment end, wherein the aerosol release end is configured to provide an aerosol to a user through one or more apertures within the aerosol release end, a top surface, wherein the top surface comprises a first concave gripping surface includes one or more top ridges, and a bottom surface, wherein the bottom surface includes a second concave gripping surface including one or more bottom ridges.

[0006] These and other aspects and features of non-limiting embodiments of the present invention will become apparent to those skilled in the art upon review of the following description of specific non-limiting embodiments of the invention in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] For the purpose of illustrating the invention, the drawings show aspects of one or more embodiments of the invention. However, it should be understood that the present invention is not limited to the precise arrangements and instrumentalities shown in the drawings, wherein:

[0008] FIG. **1** depicts a side, top and back view of an exemplary mouthpiece;

[0009] FIG. **2** depicts a side, top and front view of an exemplary system including an aerosol delivery device and a mouthpiece;

[0010] FIG. **3**A depicts an explosion view of an exemplary system including an aerosol delivery device and a mouthpiece;

[0011] FIG. **3**B depicts an exemplary reservoir;

[0012] FIG. **3**C depicts an exemplary reservoir base;

[0013] FIG. **3**D depicts an exemplary vapor channel seal;

[0014] FIG. **3**E depicts an exemplary cotton stand;

[0015] FIG. **4** depicts a side, back and front view of an exemplary system including an aerosol delivery device and a mouthpiece;

[0016] FIG. **5** depicts a front view of an exemplary aerosol delivery device;

[0017] FIG. **6** depicts a rear view of an exemplary system including an aerosol delivery device and a mouthpiece;

[0018] FIG. **7** depicts a left side view of an exemplary system including an aerosol delivery device and a mouthpiece;

[0019] FIG. **8** depicts a right side view of an exemplary system including an aerosol delivery device and a mouthpiece;

[0020] FIG. **9** depicts a top view of an exemplary system including an aerosol delivery device and a mouthpiece;

[0021] FIG. **10** depicts a bottom view of an exemplary system including an aerosol delivery device and a mouthpiece;

[0022] FIG. **11** depicts a front view of an exemplary mouthpiece; and

[0023] FIG. **12** is a block diagram of a computing system that can be used to implement any one or more of the methodologies disclosed herein and any one or more portions thereof.

[0024] The drawings are not necessarily to scale and may be illustrated by phantom lines, diagrammatic representations and fragmentary views. In certain instances, details that are not necessary for an understanding of the embodiments or that render other details difficult to perceive may have been omitted.

DETAILED DESCRIPTION

[0025] At a high level, described herein is a system including an aerosol delivery device and a mouthpiece which may be attached to an aerosol delivery device. A mouthpiece may include: a first end configured to be connected to an aerosol delivery device; a second end disposed distal from the first end, where the second end is configured to provide at least one of: aerosols and oral drugs to a user through one or more apertures disposed in the second end; a first portion disposed proximate the first end and having a substantially constant cross-section; a second portion comprising a convex portion extending toward the second end; and one or more grooves disposed on the second portion, where the one or more grooves are configured to provide a

grip to a user. In some embodiments, the mouthpiece is symmetrical. In some embodiments, the one or more grooves include four grooves on each side of the mouthpiece. In some embodiments, four grooves on each side of the mouthpiece are disposed in a horizontal direction relative to a plane extending from the first end to the second end of the mouthpiece.

[0026] Systems, mouthpieces, and aerosol delivery devices are described herein. A system may include a computing device. A system may include a processor. Processor may include, without limitation, any processor described in this disclosure. Processor may be included in a computing device. Computing device may include any computing device as described in this disclosure, including without limitation a microcontroller, microprocessor, digital signal processor (DSP) and/or system on a chip (SoC) as described in this disclosure. Computing device may include, be included in, and/or communicate with a mobile device such as a mobile telephone or smartphone. Computing device may include a single computing device operating independently, or may include two or more computing device operating in concert, in parallel, sequentially or the like; two or more computing devices may be included together in a single computing device or in two or more computing devices. Computing device may interface or communicate with one or more additional devices as described below in further detail via a network interface device. Network interface device may be utilized for connecting computing device to one or more of a variety of networks, and one or more devices. Examples of a network interface device include, but are not limited to, a network interface card (e.g., a mobile network interface card, a LAN card), a modem, and any combination thereof. Examples of a network include, but are not limited to, a wide area network (e.g., the Internet, an enterprise network), a local area network (e.g., a network associated with an office, a building, a campus or other relatively small geographic space), a telephone network, a data network associated with a telephone/voice provider (e.g., a mobile communications provider data and/or voice network), a direct connection between two computing devices, and any combinations thereof. A network may employ a wired and/or a wireless mode of communication. In general, any network topology may be used. Information (e.g., data, software etc.) may be communicated to and/or from a computer and/or a computing device. Computing device may include but is not limited to, for example, a computing device or cluster of computing devices in a first location and a second computing device or cluster of computing devices in a second location. Computing device may include one or more computing devices dedicated to data storage, security, distribution of traffic for load balancing, and the like. Computing device may distribute one or more computing tasks as described below across a plurality of computing devices of computing device, which may operate in parallel, in series, redundantly, or in any other manner used for distribution of tasks or memory between computing devices. Computing device may be implemented, as a non-limiting example, using a "shared nothing" architecture.

[0027] With continued reference to FIG. **1**, computing device may be designed and/or configured to perform any method, method step, or sequence of method steps in any embodiment described in this disclosure, in any order and with any degree of repetition. For instance, computing device may be configured to perform a single step or sequence repeatedly until a desired or commanded outcome is achieved; repetition of a step or a sequence of steps may be performed iteratively and/or recursively using outputs of previous repetitions as inputs to subsequent repetitions, aggregating inputs and/or outputs of repetitions to produce an aggregate result, reduction or decrement of one or more variables such as global variables, and/or division of a larger processing task into a set of iteratively addressed smaller processing tasks. Computing device may perform any step or sequence of steps as described in this disclosure in parallel, such as simultaneously and/or substantially simultaneously performing a step two or more times using two or more parallel threads, processor cores, or the like; division of tasks between parallel threads and/or processes may be performed according to any protocol suitable for division of tasks between iterations. Persons skilled in the art, upon reviewing the entirety of this disclosure, will be aware of various ways in which steps, sequences of steps, processing tasks, and/or data may be subdivided, shared, or otherwise dealt with using iteration, recursion, and/or parallel processing.

[0028] As used herein, with respect to a mouthpiece capable of attaching to an aerosol delivery device, a "longitudinal axis" is an axis travelling from the side of the mouthpiece that attaches to the aerosol delivery device to the side of the mouthpiece farthest from the side that attaches to the aerosol delivery device. As used herein, with respect to a mouthpiece capable of attaching to an aerosol delivery device and having one or more surfaces that provides grip, a "lateral axis" is an axis perpendicular to a longitudinal axis, and travelling from a side of the mouthpiece that does not include a surface that provides grip to an opposite side of the mouthpiece that also does not include a surface that provides grip. As used herein, with respect to a mouthpiece capable of attaching to an aerosol delivery device and having one or more surfaces that provides grip, a "vertical axis" is an axis perpendicular to a longitudinal axis and perpendicular to a lateral axis. A vertical axis may travel from a side of a mouthpiece that provides grip to an opposite side of the mouthpiece, which may also provide grip.

[0029] As used herein, a first component of a mouthpiece is "forward" of a second component when the first component is closer to the side of the mouthpiece that attaches to the aerosol delivery device along a longitudinal axis. As used herein, a first component of a mouthpiece is "behind" a second component when the first component is farther from the side of the mouthpiece that attaches to the aerosol delivery device along a longitudinal axis. As used herein, the direction "left" is the left direction in FIG. **9**. As used herein, the direction "right" is the right direction in FIG. **9**.

[0030] Disclosed herein is an improved mouthpiece for aerosol delivery devices, such as vaporizers. A mouthpiece may include minor ridges on both sides for ease of use, grip, and hand-less holding of the device. A mouthpiece may offer assistance to users with a disability.

[0031] Now referring to FIG. **1**, a view from a perspective to the top, side, and back of mouthpiece **100** is provided. As used herein, an aerosol delivery device "mouthpiece" is an element that a user may touch with their teeth, lips, or both when drawing in aerosol from an aerosol delivery device. As used herein, an "aerosol delivery device" is a device that generates aerosol such that a user may draw in the aerosol. In some embodiments, aerosol may travel from aerosol

delivery device through mouthpiece **100** to a user. Mouthpiece **100** may include an aerosol delivery device attachment end **104**. As used herein, an "aerosol delivery device attachment end" is an end of a mouthpiece that attaches to an aerosol delivery device. Aerosol delivery device attachment end **104** may be configured to attach to an aerosol delivery device, pod systems, disposable Electronic Nicotine Delivery Systems (ENDS), inhalers, nebulizers, and/or other oral drug delivery devices.

[0032] Still referring to FIG. **1**, mouthpiece **100** may include an aerosol release end **108**. Aerosol release end **108** may be positioned opposite aerosol delivery device attachment end **104**. Aerosol release end **108** may contain one or more apertures, such as first aperture **112** and second aperture **116**. A pertures on aerosol release end **108** may be configured to receive aerosols and/or oral drugs for delivery to a user. A user may place their mouth over the aerosol release end **108** and inhale to receive aerosols and/or oral drugs through one or more apertures. In some embodiments, one or more apertures may include a filter component. Each filter component may include a plurality of openings. In some embodiments, filter component may include 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, or more openings. In some embodiments, filter component may include 4 openings.

[0033] Still referring to FIG. **1**, mouthpiece **100** may include a spacer region **120**. As used herein, a "spacer region" of a mouthpiece is a region of a mouthpiece that has a substantially consistent exterior along a longitudinal axis. In some embodiments, spacer regions **120** may be located forward of a gripping surface and behind an aerosol device attachment end along a longitudinal axis. In some embodiments, spacer regions **120** may have a substantially consistent cross section when travelling along a longitudinal axis.

[0034] Still referring to FIG. **1**, in some embodiments, mouthpiece **100** may include a gripping surface **124**. As used herein, a mouthpiece "gripping surface" is a surface of a mouthpiece that provides grip to a user drawing aerosol from an aerosol delivery device. Gripping surface **124** may include a concave, convex, scalloped, and/or tapered region. In some embodiments, gripping surface **124** is not convex. In some embodiments, gripping surface **124** may be flat, sloped, wavy, irregular, or the like.

[0035] Still referring to FIG. **1**, in some embodiments, gripping surface **124** may contain one or more grooves and/or ridges. Gripping surface **124** may include first ridge **128**, second ridge **132**, third ridge **136**, and fourth ridge **140**. In some embodiments, ridges and/or grooves may be parallel. In some embodiments, ridges and/or grooves may run along a lateral axis. In some embodiments, ridges and/or grooves may be equal distances apart. In some embodiments, mouthpiece **100** may include a first gripping surface on top surface **144** and a second gripping surface on bottom surface **148**. In some embodiments, a top gripping surface and a bottom gripping surface may share features such as number of grooves and/or ridges, their position, and their length. In some embodiments, top surface **144** and bottom surface **148** may be symmetrical. In some embodiments, each groove may have a substantially similar and/or identical depth. In some embodiments, each ridge may have a substantially similar and/or identical height.

[0036] Still referring to FIG. **1**, in some embodiments, ridges may have different lengths. In one embodiment, first ridge **128** and fourth ridge **140** may have a same or similar length and second ridge **132** and third ridge **136** may have a same or similar length. The lengths of second ridge **132** and third ridge **136** may be longer than the lengths of first ridge **128** and fourth ridge **140**. In some embodiments, fourth ridge **140** may be shorter than first ridge **128**, second ridge **132**, and third ridge **136**. In some embodiments, first ridge **128** may be shorter than second ridge **132** and third ridge **136**. In some embodiments, second ridge **132** and third ridge **136** may have substantially equal length.

[0037] Still referring to FIG. **1**, in some embodiments, there is a need for better user control of inhalation from a vaporizer device. The addition of the ridges **128**, **132**, **136**, and **140** on mouthpiece **100** provides users with an additional sensorial cue for repeatability during use. Users may want to use their vaporizer or inhaler devices hands-free. Added friction from ridges **128**, **132**, **136**, and **140** stabilizes the device during use, which may enable the user to utilize the device hands-free. Added friction from the grooves **128**, **132**, **136**, and **140** prevents slippage during use as well as during storage or travel. Added grip may cause a user to be less likely to drop the device, reducing the risk of contamination and fracture.

[0038] Still referring to FIG. **1**, in some embodiments, mouthpiece **100** may include smooth surface **152** forward of one or more top ridges. Smooth surface **152** may be longer in a longitudinal direction than the distance between two adjacent ridges of the one or more top ridges. Smooth surface **152** may be included within a concave surface. In some embodiments, mouthpiece **100** lacks a similar smooth surface behind a set of ridges. For example, a distance between two adjacent ridges of the one or more top ridges may be at least as long as the distance between the rearmost ridge of a set of ridges and aerosol release end **108**.

[0039] Still referring to FIG. **1**, people with disabilities may benefit from an accessible design that enables and maximizes hands-free use on inhalable medication devices such as inhalers or nebulizers, or even inhalable consumer products such as nicotine vaporizers. Ridges **128**, **132**, **136**, and **140** may allow these devices to be more readily accessible to disabled users.

[0040] Still referring to FIG. **1**, the functionality of the mouthpiece **100** may provide a better grip for the user, enabling a hands-free experience through added friction on the mouthpiece. Optimized suction repeatability through an added cue of roughness provides a sensorial reminder of previous handling. This can help to select and maintain preferred airflow for each user.

[0041] Still referring to FIG. **1**, in some embodiments, mouthpiece **100** may have a glossy outer appearance. In some embodiments, mouthpiece **100** may be made from a thermoplastic polymer, such as Bisphenol A (BPA-free) polycarbonate and/or acrylonitrile butadiene styrene (ABS). As used herein, a "thermoplastic polymer" is a plastic polymer material that becomes pliable or moldable at a certain elevated temperature and solidifies upon cooling. In another embodiment, mouthpiece **100** may be made from metal, plastic, wood, a combination of materials, or the like. Mouthpiece **100** may be made using a method described for production of outer body of aerosol delivery device. Non-limiting examples of materials which may be used include BIOGRADE B-M, BIOPAR FG MO, BIOPLAST, ENSO RENEW RTP, Polyethylene Terephthalate, High-Density Polyethylene, Polypropylene, and the like. In some embodiments, one or more ridges may be made from a different material than other surfaces of mouthpiece **100** and/or

aerosol delivery device **204**. In some embodiments, gripping surface **124** may be made from a different surface than other surfaces of mouthpiece **100** and/or aerosol delivery device **204**. For example, gripping surface **124** may be made from a material that is more durable, more comfortable and/or safer than a material used to make spacer region **120** and/or outer body **208**. In some embodiments, ridges of mouthpiece **100**, such as ridges **128**, **132**, **136**, and **140**, may include a rubber material. In some embodiments, rubber may include Neoprene, Nitrile, and/or Silicone rubber. In some embodiments, rubber may include a food-grade or food-safe rubber. Mouthpiece **100** may be made using materials described for makeup of outer body of aerosol delivery device.

[0042] Referring now to FIG. **1** and FIG. **2**, in some embodiments, mouthpiece **100** may be hollow. In some embodiments, mouthpiece **100** may include a concave section on aerosol delivery device attachment end **104**; this may allow room for a component of aerosol delivery device **204**, such as aerosolizable material reservoir **216**, to fit into mouthpiece **100**. As used in this disclosure, an "aerosolizable material reservoir" is a component of apparatus **100** configured to hold an aerosolizable material. "A erosolizable material," for the purpose of this disclosure, is a material that is capable for aerosolization, wherein the aerosolization is a process of intentionally oxidatively converting and suspending particles or a composition in a moving stream of air. In some embodiments, mouthpiece **100** may include a channel connecting a port on aerosol delivery device attachment end **104** to one or more apertures, such as first aperture **112** and/or second aperture **116** on aerosol release end **108**. Such a port may connect with a port on aerosol delivery device **204**, such as a port on a back end of aerosol delivery device **204**, through which aerosol may travel. Such port on aerosol delivery device **204** may connect with an aerosol generation mechanism **228** and/or air inlet **212**. For example, such port on aerosol delivery device **204** may connect with an aerosol generation mechanism **228** and/or air inlet **212** using a friction fit, threaded connection, adhesive, snapping tabs that hold mouthpiece **100** in place, and the like. One or more components of mouthpiece **100** and/or aerosol delivery device **204**, such as an internal component of mouthpiece **100**, may be consistent with any such component of U.S. patent application Ser. No. 17/499,326, filed on Oct. 12, 2021, and titled "VAPORIZER CARTRIDGE," the entirety of which is hereby incorporated by reference.

[0043] Referring now to FIG. **2**, an exemplary embodiment of a system **200** for aerosol delivery is illustrated. System **200** may include aerosol delivery device **204**. Aerosol delivery device **204** may include, for example, a pod system, a disposable ENDS, an inhaler, a nebulizer, and/or an oral drug delivery device. Aerosol delivery device **204** may include outer body **208**. As used in this disclosure, an "outer body" is a container configured to encapsulate one or more internal elements. Internal elements may include, in non-limiting examples, aerosol generation mechanism, battery, control circuit, and aerosolizable material reservoir. Outer body **208** may include any suitable material or combination of materials. For instance, and without limitation, outer body **208** may include metal, such as without limitation aluminum, steel, or the like. Outer body **208** may include plastic, such as without limitation polyvinyl chloride (PVC), high-density polyethylene (HDPE), acrylonitrile butadiene styrene (ABS), or the like. Outer body **208** may include ceramic. Outer body **208** may include composite material; as a non-limiting example, outer body **208** may include fiberglass or hemp fiber.

[0044] Still referring to FIG. **2**, outer body **208** may be manufactured according to any suitable method or combination of methods, including without limitation casting, molding, subtractive processes such as machining, computer numerical control (CNC) machining, or the like, additive processes such as fused deposition printing, power-binder printing, selective laser sintering, stereolithography, or the like, lamination, coating, finishing, painting, polishing, engraving, anodization, assembly of parts through adhesion, engineering fits, fastening, fusing, or the like, or any combination thereof. Persons skilled in the art, upon reviewing the entirety of this disclosure, will be aware of various materials and/or material components usable to construct outer body **208** or other elements, components, and/or devices of system **200**, as well as suitable methods or combinations of methods for manufacturing outer body **208**, components of outer body **208**, and/or any other elements, components, and/or devices of system **200** as consistent with the instant disclosure.

[0045] Still referring to FIG. **2**, system **200** may include a power source. As used herein, a "power source" is an element configured to provide electric power to a circuit, device, or both. In some cases, a power source may be connected to a plurality of electronic device or components such as, without limitation, processing circuit, control circuit, and/or any computing device described herein. A power source may include, without limitation, a battery containing one or more cell chemistries such as, without limitation, lithium cobalt oxide (LCO), lithium nickel cobalt aluminum oxide (NCA), lithium nickel manganese cobalt oxide (NMC), lithium iron phosphate (LFP), and the like; a power source may be rechargeable. In some embodiments, a power source may be configured to transmit electric power to elements, components, and/or devices within system **200** which require electricity to operate, such as, without limitation, processing circuit, control circuit, and/or any computing device described herein. In some cases, transmitting electric power may include using one or more continuous conductors. As used in this disclosure, a "continuous conductor" is an electrical conductor, without any interruption, made from electrically conducting material that is capable of carrying electrical current. Electrically conductive material may comprise, for example, copper. Electrically conductive material may include any material that is conductive to electrical current and may include, as a nonlimiting example, various metals such as copper, steel, or aluminum, carbon conducting materials, or any other suitable conductive material. In a non-limiting example, a power source may transmit electric power through a continuous conductive wire to control circuit and/or processing circuit. Additionally, or alternatively, a power source may be integrated and/or embedded within control circuit and/or processing circuit. In a non-limiting example, control circuit and/or processing circuit may be supplied by separate power sources. In other embodiments, a control circuit and/or a processing circuit may share a common power source. In a non-limiting example, a power source may be remote to control circuit and/or processing circuit and transmit electric power through one or more continuous conductor to control circuit and/or processing circuit over a distance within system **200**.

[0046] Still referring to FIG. **2**, system **200** may include an aerosolizable material reservoir. As used in this disclosure, an "aerosolizable material reservoir" is a component configured to hold an aerosolizable material. "A erosolizable material," for the purpose of this disclosure, is a material that is capable for aerosolization, where aerosolization is a process of intentionally oxidatively converting and suspending particles or a composition in a moving stream of air. Aerosolizable material may include one or more active ingredients and/or chemicals, including without limitation pharmaceutical chemicals, recreational chemicals, flavor-bearing chemicals, and the like. Chemicals may be extracted, without limitation, from plant material, and/or a botanical, such as tobacco or other herbs or blends. Chemicals may be in pure form and/or in combination or mixture with humectants that may or may not be mixed with plant material. In a non-limiting example, aerosolizable material may include E-cigarette liquid, wherein the E-cigarette liquid is a liquid solution or mixture used in aerosol delivery device such as, without limitation, an e-cigarette. In some cases, aerosolizable material may include a humectant. As used herein, a "humectant" is a substance used to keep things moist. Humectant may attract and retain moisture in the air by absorption, allowing the water to be used by other substances. Humectants are also commonly used in many tobaccos or botanicals and electronic vaporization products to keep products moist and as vapor-forming medium. Examples may include, without limitation, propylene glycol, sugar polyols such as glycerol, glycerin, honey and the like thereof. Continuing the non-limiting example, E-cigarette liquid may consist a combination of propylene glycol and glycerin (95%), and flavorings, nicotine, and other additives (5%). In some embodiments, aerosolizable material held by an aerosolizable material reservoir may be replaceable. In a non-limiting example, aerosolizable material reservoir may include a secondary container such as a liquid chamber, wherein the liquid chamber may contain a single type of aerosolizable material. Liquid chamber may be inserted into aerosolizable material reservoir; in other words, aerosolizable material may not be in direct contact with aerosolizable material reservoir. A user of system **200** may switch from a first aerosolizable material to a second aerosolizable material by ejecting a first liquid chamber storing the first aerosolizable material from an aerosolizable material reservoir and inserting a second liquid chamber storing a second aerosolizable material into the aerosolizable material reservoir.

[0047] Still referring to FIG. **2**, system **200** may include a control circuit. As used herein, a "control circuit" is a circuit configured to control a status of a component of an aerosol delivery device. A control circuit may be implemented, without limitation, as an application-specific integrated circuit (ASIC), a reconfigurable hardware circuit such as a field-programmable gate array (FPGA), as a microprocessor, microcontroller, an analog circuit such as without limitation an operational amplifier circuit, or as any other circuit capable of generating signals as described in further detail below. In some embodiments, without limitation, a control circuit may be further configured to control other elements, components, and/or devices within system **200**. A control circuit may include an aerosol generation mechanism. For instance, and without limitation, a control circuit may be configured to direct, control, or otherwise regulate the output of electric power from a power source through a continuous conductor to other components of system **200** that require electric power input such as, without limitation, an aerosol generation mechanism.

[0048] Still referring to FIG. **2**, as used herein, an "aerosol generation mechanism" is a component on an aerosol delivery device configured to generate aerosol using an aerosolizable material. In an embodiment, aerosol generation mechanism may be configured to convert an aerosolizable material into a vapor. As used herein, "vapor" is a substance that is in a gas phase or that is suspended in a gas. The vapor may be condensed to a liquid or to a solid by increasing its pressure without reducing the temperature. Vapor may include an aerosol. As used herein, an "aerosol" is a colloid of fine solid particles or liquid droplets in air or another gas. Examples of aerosols may include clouds, haze, and smoke, including the smoke from tobacco or botanical products. The liquid or solid particles in an aerosol may have varying diameters of average mass that may range from monodisperse aerosols, producible in the laboratory, and containing particles of uniform size; to polydisperse colloidal systems, exhibiting a range of particle sizes. As the sizes of these particles become larger, they have a greater settling speed which causes them to settle out of the aerosol faster, making the appearance of the aerosol less dense and to shorten the time in which the aerosol will linger in air. Interestingly, an aerosol with smaller particles will appear thicker or denser because it has more particles. Particle number has a much bigger impact on light scattering than particle size (at least for the considered ranges of particle size), thus allowing for a vapor cloud with more smaller particles to appear denser than a cloud having fewer, but larger particle sizes.

[0049] Still referring to FIG. **2**, in some embodiments, an aerosol generation mechanism may include various internal elements, including without limitation, a heating element, which may include a resistive heater configured to thermally contact the aerosolizable material from an aerosolizable material reservoir. A power source controlled by a control circuit, as described above, may provide electricity to a heating element. In a non-limiting example, using a heating element of an aerosol generation mechanism for vaporization of an aerosolizable material may be used as an alternative to burning (smoking) which may avoid inhalation of many irritating and/or toxic carcinogenic by-products which may result from pyrolytic processes of burning material such as, without limitation, tobacco or botanical products above 300 degrees C. Heating element may operate at a temperature at/or below 300 degrees C., configured by an aerosol generation mechanism, controlled by a control circuit.

[0050] Still referring to FIG. **2**, an aerosol generation mechanism may include an atomizer and/or cartomizer configured to heat aerosolizable material. As used in this disclosure, an "atomizer" is a device for emitting liquid as a fine spray. Such a liquid may include aerosolizable material. Aerosolizable material may include any aerosolizable material described herein; for instance, and without limitation, aerosolizable material may comprise glycerin and/or propylene glycol. Aerosolizable material may be heated, by heating element described above, to a sufficient temperature such that it may vaporize. A tomizer may include a device or system configured to generate an aerosol. An atomizer may include, without limitation, a small heating element that heats and/or vaporizes at least a portion of aerosolizable material and a wicking material that may draw a liquid aerosolizable material in to the atomizer; a wicking material

may comprise silica fibers, cotton, ceramic, hemp, stainless steel mesh, and/or rope cables. A wicking material may be designed and/or configured to draw liquid aerosolizable material into atomizer without a pump or other mechanical moving part. A resistance wire may be wrapped around a wicking material and then connected to a positive and negative pole of a current source such as a power source as noted above; a resistance wire may include, without limitation, a coil, and when activated may have a temperature increase as a result of the current flowing through the resistive wire to generate heat. Heat may be transferred from heating element to aerosolizable material through conductive, convective, and/or radiative heat transfer such that aerosolizable material vaporizes.

[0051] Still referring to FIG. **2**, as an alternative or additional element to an atomizer, an aerosol generation mechanism may include a cartomizer to generate aerosol from aerosolizable material for inhalation by the user of system **200**. As used in this disclosure, a "cartomizer" is a combination of an atomizer and a cartridge that holds aerosolizable material. As a non-limiting example, a cartridge may include an aerosolizable material reservoir. A cartomizer may include a heating element surrounded by a liquid-soaked poly-foam that acts as holder for aerosolizable material, which may include without limitation a liquid. In some embodiments, an aerosol generation mechanism may lack an atomizer or cartomizer, but may include an oven instead, which may be at least partially closed. An "oven," for the purpose of this disclosure, is a component configured to heat confined substances, such as, without limitation, aerosolizable material. Oven may have a closable opening. Oven may be wrapped with heating element or may be in thermal communication with a heating element by means of another mechanism. Aerosolizable material may be placed directly in an oven or in a liquid chamber fitted in the oven. A heating element in thermal communication with the oven may heat aerosolizable material mass in order to create a gas phase vapor, including without limitation through conductive, convective, and/or radiative heat transfer. Vapor may be released to a vaporization chamber where gas phase vapor may condense, forming an aerosol cloud having typical liquid vapor particles with particles having a diameter of average mass of approximately 1 micron or greater. In some cases, the diameter of average mass may be approximately 0.1-1 micron.

[0052] Still referring to FIG. **2**, air may be drawn into an aerosol generation mechanism to carry vaporized aerosol away from a heating element, where it then cools and condenses to form liquid particles suspended in air, which may then be drawn out of a mouthpiece by the user. In a non-limiting example, a system may include inlet **212**. Inlet **212** may include a hole or passage that allows air to pass into aerosol delivery device **204**. In some embodiments, fresh air may be allowed to enter system **200** through inlet **212** when a heating element is on. Vaporization of aerosolizable material may occur at lower temperatures in aerosol generation mechanism compared to temperatures required to generate an inhalable vapor in a cigarette. The lower temperature of an aerosol generation mechanism may result in less decomposition and/or reaction of aerosolizable material, and therefore produce an aerosol with fewer chemical components compared to a cigarette. In some cases, aerosol generation mechanism may generate aerosol with fewer chemical components that may be harmful to human health compared to a cigarette.

[0053] Still referring to FIG. **2**, system **200** may include a processing circuit. As used in this disclosure, a "processing circuit" is a circuit configured to perform processing and/or memory functions. In a non-limiting example, processing circuit may be configured to process any processing steps described in this disclosure. Processing circuit may include any computing device as described in this disclosure, including without limitation a microcontroller, microprocessor, digital signal processor (DSP) and/or system on a chip (SoC) as described in this disclosure. Computing device may include, be included in, and/or communicate with a mobile device such as a mobile telephone or smartphone. Processing circuit may include a single computing device operating independently, or may include two or more computing device operating in concert, in parallel, sequentially or the like; two or more computing devices may be included together in a single computing device or in two or more computing devices. Processing circuit may interface or communicate with one or more additional devices as described below in further detail via a network interface device. Network interface device may be utilized for connecting processing circuit to one or more of a variety of networks, and one or more devices. Examples of a network interface device include, but are not limited to, a network interface card (e.g., a mobile network interface card, a LAN card), a modem, and any combination thereof. Examples of a network include, but are not limited to, a wide area network (e.g., the Internet, an enterprise network), a local area network (e.g., a network associated with an office, a building, a campus or other relatively small geographic space), a telephone network, a data network associated with a telephone/voice provider (e.g., a mobile communications provider data and/or voice network), a direct connection between two computing devices, and any combinations thereof. A network may employ a wired and/or a wireless mode of communication. In general, any network topology may be used. Information (e.g., data, software etc.) may be communicated to and/or from a computer and/or a computing device. Processing circuit may include but is not limited to, for example, a computing device or cluster of computing devices in a first location and a second computing device or cluster of computing devices in a second location. Processing circuit may include one or more computing devices dedicated to data storage, security, distribution of traffic for load balancing, and the like. Processing circuit may distribute one or more computing tasks as described below across a plurality of computing devices of computing device, which may operate in parallel, in series, redundantly, or in any other manner used for distribution of tasks or memory between computing devices. Processing circuit may be implemented using a "shared nothing" architecture in which data is cached at the worker, in an embodiment, this may enable scalability of system **200** and/or computing device.

[0054] Still referring to FIG. **2**, aerosol delivery device **204** may include components such as a control circuit and/or processing circuit which may, for example, control use of aerosol delivery device. A system, aerosol delivery device, mouthpiece, and/or component of system, aerosol delivery device and/or mouthpiece may be consistent with any such system, aerosol delivery device, component, or mouthpiece disclosed in U.S. patent application Ser. No. 18/211,706,

filed on Jun. 20, 2023, and titled "APPARATUS AND METHOD FOR AEROSOL DELIVERY," the entirety of which is hereby incorporated by reference.

[0055] Still referring to FIG. **2**, outer body **208** may encapsulate internal components of aerosol delivery device **204**, such as, without limitation, power source, aerosolizable material reservoir, control circuit, aerosol generation mechanism, processing circuit, and the like. Outer body **208** may take on a variety of shapes. In some embodiments, outer body **208** may include a cylinder. In some embodiments, outer body **208** may include a cylinder with 2 flat sides and 2 rounded sides. In some embodiments, outer body may slightly taper towards the side to which mouthpiece **100** attaches. In a non-limiting example, outer body **208** may be designed in a shape comparable to an actual cigarette. In some embodiments, outer body **208** may be detachable from mouthpiece **100**. In some embodiments, one or more components of system **200** and/or aerosol delivery device **204** may be detachable from outer body **208**. In a non-limiting example, outer body **208** may be detachable from a cartridge, where a cartridge may include one or more internal elements, components, and/or devices listed above. System **200** may include a mouthpiece **100** at a back end of outer body **208**. In some embodiments, mouthpiece **100** may be located on an opposite end to front end. Mouthpiece **100** may include an element of apparatus **100** through which a user inhales vapor. In some embodiments, mouthpiece **100** may include one or more apertures through which vapor may be drawn when a user inhales, a passage through which vapor passes to the aperture, one or more inlets to permit passage of air through mouthpiece **100**, and/or any other suitable feature. Mouthpiece **100** may be tapered or otherwise shaped to fit in a user's mouth with ease and comfort.

[0056] Still referring to FIG. **2**, in a non-limiting example, front end of outer body **208** may include charging connector, which may include a circuit or circuit element by means of which electric power may be transferred from an external power source to a power source of system **200**. For instance, and without limitation, charging connector may include an inductive charging coil whereby electrical power is transferred to the inductive charging coil using a varying exterior magnetic field supplied by another device or a conductive connection from system **200** to an exterior device. A non-limiting example of a conductive connection may include two or more charge contacts, which may be constructed of conductive material and accessible from an exterior surface of outer body **208**, such as, without limitation, front end. Charge contacts may be in electrical communication with a power source inside of outer body **208**; charge contact pins may be visible on the exterior of outer body **208**. When system **200** is connected to an external power source, charging pins may facilitate electrical communication between a power source inside system **200** and an external power source. Charging pins may be electrically connected to a power source of system **200** via any suitable connection; for instance, and without limitation, charging pins may contact one or more conductive elements including springs, clips, and/or a printed circuit board (PCB). Charging pins may include male and/or female connectors; for instance, charging pins may include a "plug" that projects from front end and/or back end of outer body **208** or may include holes into which a plug or one or more projecting conducting pins may be inserted. Additionally, or alternatively, charging connector on back end may include a magnetic contact.

[0057] Still referring to FIG. **2**, outer body **208** may include an end-cap. As used in this disclosure, an "end-cap" is a removable cover element that covers an end of an outer body. In a non-limiting example, an end-cap may close off mouthpiece **100**. An end-cap may be attached to outer body **208** in any suitable manner, including without limitation a press-fit, snap fit, adhesion, fusion, fastening, or the like; end-cap may be formed as an integral portion of outer body **208**.

[0058] Still referring to FIG. **2**, in some embodiments, a status indicator **220** may be located on a surface of outer body **208**. As used in this disclosure, a "status indicator" is an element that continuously indicates a status of an aerosol delivery device, a mouthpiece, a component of an aerosol delivery device, a component of a mouthpiece, or a combination of these elements. A status of system **200** may include, without limitation, an internal state of a processing circuit, a state of a power source, a state of an aerosol generation mechanism and the like. In some embodiments, a status indicator **220** may include a passive status indicator, wherein the passive status indicator may be a status indicator **220** with physical configurations on outer body **208** which enables one or more indications of current apparatus state. In a non-limiting example, passive status indicator may be located on a surface of outer body **208** where at least a portion of the surface is transparent and/or hollow. User may observe elements, components, or otherwise devices inside outer body **208** through such a portion of the surface to know a status of system **200**. For instance, and without limitation, status indicator **220** may include a liquid fill level indicator, wherein the liquid fill level indicator may passively allow user to acknowledge the amount of aerosolizable material remaining within an aerosolizable material reservoir, using a liquid fill level indicator on the surface of outer device. A non-limiting example of a conductive connection may include two or more charge contacts, which may be constructed of conductive material and accessible from an exterior surface of outer body **208**, such as, without limitation, front end **212**. Charge contacts may be in electrical communication with a power source inside of outer body **208**; charge contact pins may be visible on the exterior of outer body **208**. When system **200** is connected to an external power source, charging pins may facilitate electrical communication between a power source inside system **200** and an external power source. Charging pins may be electrically connected to a power source of system **200** via any suitable connection; for instance, and without limitation, charging pins may contact one or more conductive elements including springs, clips, and/or a printed circuit board (PCB). Charging pins may include male and/or female connectors; for instance, charging pins may include a "plug" that projects from front end **212** and/or back end of outer body **208** or may include holes into which a plug or one or more projecting conducting pins may be inserted. Additionally, or alternatively, charging connector on back end may include a magnetic contact.

[0059] Still referring to FIG. **2**, outer body **208** may include an end-cap. As used in this disclosure, an "end-cap" is a removable cover element that covers an end of an outer body. In a non-limiting example, an end-cap may close off mouthpiece **100**. An end-cap may be attached to outer body **208** in any suitable manner, including without limitation a

press-fit, snap fit, adhesion, fusion, fastening, or the like; end-cap may be formed as an integral portion of outer body **208**.

[0060] Still referring to FIG. **2**, in some embodiments, a status indicator **220** may be located on a surface of outer body **208**. As used in this disclosure, a "status indicator" is an element that continuously indicates a status of an aerosol delivery device, a mouthpiece, a component of an aerosol delivery device, a component of a mouthpiece, or a combination of these elements. A status of system **200** may include, without limitation, an internal state of a processing circuit, a state of a power source, a state of an aerosol generation mechanism and the like. In some embodiments, a status indicator **220** may include a passive status indicator, wherein the passive status indicator may be a status indicator **220** with physical configurations on outer body **208** which enables one or more indications of current apparatus state. In a non-limiting example, passive status indicator may be located on a surface of outer body **208** where at least a portion of the surface is transparent and/or hollow. User may observe elements, components, or otherwise devices inside outer body **208** through such a portion of the surface to know a status of system **200**. For instance, and without limitation, status indicator **220** may include a liquid fill level indicator, wherein the liquid fill level indicator may passively allow user to acknowledge the amount of aerosolizable material remaining within an aerosolizable material reservoir, using a liquid fill level indicator on the surface of outer body **208** that right above aerosolizable material reservoir. In other embodiments, status indicator **220** may include an active status indicator, wherein the active status indicator may be a status indicator **220** with electrical configurations inside outer body **208** which enables one or more indications of current apparatus state. In a non-limiting example, active status indicator may include an indicator light located on outer body **208**. Indicator light may include any light-emitting electronic component, including without limitation a light-emitting diode (LED). Continuing the non-limiting example, liquid fill level indicator may include a LED configured to indicate a detected liquid fill level of aerosolizable material reservoir by illuminating various color of lights; for instance, and without limitation, liquid fill level indicator may illuminate green light when aerosolizable material reservoir is at full capacity and illuminate red light when aerosolizable material at low capacity. In other embodiments, active status indicator may also indicate, without limitation, a charging status of system **200**; for instance, and without limitation, indicator light of active status indicator may emit light while system **200** is charging, and cease illumination when charging is complete. Indicator light of active status indicator may emit a first color of light while charging is occurring and a second when charging is complete, may blink to indicate charging is currently occurring, or the like. A ny suitable pattern of illumination in response to charging status of system **200** may be used. In another non-limiting example, active status indicator may indicate device usability. Indicator light of active status indicator may emit, without limitation, color "green" when a control circuit is enabled, and color "red" when a control circuit is disabled.

[0061] Still referring to FIG. **2**, additionally, or alternatively, a biometric reading window **224** may be located on outer body **208**. As used in this disclosure, a "biometric reading window" is a designated area or surface on an outer body **208** where a biometric sensor is located or integrated. In a non-limiting example, biometric reading window **224** may be recessed into outer body **208**, which may create a raised or flush surface. Biometric reading window **224** may enable user to interact with biometric sensor through outer body **208**, allowing biometric sensor to capture and measure specific physiological or behavior characteristics of the user. In some cases, biometric sensor may include a fingerprint scanner, wherein the fingerprint scanner may be configured to capture at least a portion of user fingerprint (i.e., one or more unique patterns of ridges and valleys present on user's fingertip) to verify the user's identity and authenticate access to system **200**. In some cases, the size of biometric reading window **224** may be sufficient to accommodate the specific biometric sensor being used. For example, and without limitation, fingerprint sensor may require a smaller window than a facial recognition sensor. In some cases, size and/or location of biometric reading window may be determined based on ergonomic requirements for ease of use and comfort during normal operation of system **200**. In some cases, the surface of biometric reading window **224** may be smooth and free from any imperfections that might interfere with biometric sensor ability to capture accurate biometric data; for instance, and without limitation, surface of biometric reading window **224** may include an oleophobic coating (applied to the sensor surface to reduce the adhesion of oils, dirt, fingerprints, and/or the like). Additionally, or alternatively, biometric reading window **224** may be incorporated into other functional elements such as, without limitation, a power button, status indicator, or the like.

[0062] Referring now to FIG. **3**A, an exemplary explosion view of system **200** is illustrated. System **200** may include outer body **208** as described above. In an embodiment, outer body **208** may be made of plastic, wherein the plastic may include eco-friendly, biodegradable, or otherwise compostable plastic. In a non-limiting example, such plastic may include plant-based plastic such as polylactic acid (PLA), polyhydroalkanoates (PHAs), polyhydroxy butyrate (PHB), Polyhdroxyvalerate (PHV), polyhydroxy hexanoate (PHH), and the like. In another non-limiting example, such plastic may include petroleum-based plastics such as polyglycolic acid (PGA), polybutylene succinate (PBS). Polycaprolactone (PCL), polybutylene adipate terephthalate (PBAT), Oxo-degradable polypropylene (oxo-PP), and the like. Other components of system **200** such as, without limitation, mouthpiece **100**, cotton stand **364**, reservoir **376**, and end cap **302** may be made of such plastic as well. Further, pieces with more elasticity such as a reservoir plug or seals **348** and **344** may be made of such plastic as well, as long as required elasticity requirements are made that are similar to certain types of silicone. In a non-limiting example, battery within outer body **208** may also be eco-friendly by implementing biodegradable electrolytes, as well as replacing non-biodegradable, petroleum-based polymers with those that can easily degrade, thereby minimizing the usage of non-renewable resources in power source **380**. By removing metals, using biodegradable polymers, and implementing biodegradable electrolytes, batteries may become biodegradable themselves. However, even if power source **380** is a lithium-ion battery, a fully biodegradable plastic construction can allow the user to take out the battery of the device, recharge it, and reinsert it into a new body while composting or disposing of the old body. In this embodiment, the disposable unit would be biodegradable, and the battery would be

recharged by the user and reinserted into a new disposable body. This construction, a form of a rechargeable disposable, may require a battery holder that is insertable into the body and protects the user from handling a battery directly. Further, this construction may have a pair of pins or another method of forming an electrical connection with the heating element upon insertion, rather than being soldered together. The user may also elect to dispose of an insertable battery separately in a battery recycling facility, while being able to through the biodegradable plastic unit away. Lastly, an embodiment of using biodegradable plastics described herein fits a cartridge/rechargeable battery model. If the mouthpiece were to be connected to the reservoir and aerosolization chamber, in the form of a cartridge, and that cartridge were to be insertable and detachable of the unit body containing a fixed and rechargeable battery, an electrical connection is required to form between the cartridge at insertion with the body. As the user can keep the rechargeable body but would need to continue to buy the disposable cartridges, a cartridge made entirely out of biodegradable plastics would assist the user in not having to recycle the disposable part but yet create a sustainable use for small disposable cartridges.

[0063] With continued reference to FIG. **3**A, in some embodiments, outer body **208** may be constructed from an injectable mold. Outer body **208**, mouthpiece **100**, and/or components of system **200** may be manufactured using an injectable mold. Manufacturing outer body **208** may include using an injection molding process, wherein the injection molding process may involve a use of injectable mold configured to create specific shape and features of outer body **208**. In some embodiments, injectable mold may include two halves that are clamped together, with one or more cavities in between, wherein the cavities may define the shape of outer body **208**. In some cases, material such as, without limitation, BIOGRADE B-M (i.e., blend of thermoplastic starch (TPS), aliphatic polyesters (AP) and natural plasticizers (glycerol and sorbitol)) may be injected into the injectable mold under high pressure, filling the space and taking on the shape of injectable mold. Other exemplary materials may include, without limitation, BIOPAR FG MO (i.e., bio-plastic resin consisting mainly of thermoplastic potato starch, biodegradable synthetic copolyesters and additivies), BIOPLAST (i.e., new kind of plasticizer cherfreien thermoplastic material), ENSO RENEW RTP (i.e., renewable, biodegradable, compostable and economic thermoplastic), and/or the like. Injection molding process may include a cooling process which is configured to cool and/or solidify injected material. Injectable mold may be then opened and finished outer body **208** may be removed. In some cases, injectable mold may be precisely machined to desired shape and size of outer body **208**.

[0064] With continued reference to FIG. **3**A, outer body **208** may include printed circuit board (PCB) **386** containing near field communication (NFC) chip **378** connected with one or more antennas **384**. One end of outer body **208** may be enclosed by a body base **304**. As used in this disclosure, a "body base" is a chassis of an aerosol delivery device. In some cases, body base **304** may include a body base seal **308**, wherein the body base seal **308** is a component that seals the connection between outer body **208** and body base **304**, preventing leaks and ensuring proper functioning of system **200**. In a non-limiting example, body base seal **308** may create a tight seal when pressed against front end of aerosol delivery device **204**. In other cases, body base **304** may include a base plug **312** connected to PCB **386**, wherein the base plug **312** may include, without limitation, a transmitter, a separate PCB, a pressure sensor, a light element, and/or the like; for instance, base plug **312** may include a separate PCB with integrated pressure sensor. For another instance, and without limitation, base plug **312** may also include a base light, wherein the base light may be consistent with a status indicator **220** as described above. Additionally, or alternatively, base plug **312** may include a lighting scheme, wherein the lighting scheme may include one or more openings that allow light to shine through. In some cases, lighting scheme may include an opening in a shape of a logo or a shape of an initial of company producing system **200**.

[0065] With continued reference to FIG. **3**A, mouthpiece **100** may fit into an opposite end of the end of aerosol delivery device **204** sealed by body base **304**. In an embodiment, reservoir **376** and power source **380** (e.g., battery) may be placed within outer body **208**, in between mouthpiece **100** and body base **304**. In some cases, reservoir **376** may include a channel **316**, wherein channel **316** is a pathway or a passage through which aerosolized material flows. Channel **316** may also be encased by a cotton absorption pad, centered around channel **316**. Channel **316** may either be molded into the reservoir as an extension of a vapor tube **324** or may be separate components. Vapor tube **324** may either be molded as part of reservoir **376** or be made of a different material and inserted later on. Vapor tube **324**'s function may be to transport aerosolized material from heating chamber to user. In a non-limiting example, reservoir **376** may be in fluidic connection with heating element **382** such as, without limitation, a heating coil (i.e., a wire coil that heated to vaporize the aerosolizable material). A vapor channel seal **328** may be placed at the base of vapor tube **324** and encased the sides of heating element **382** to assist controlling of wicking and liquid flow into the heating chamber. A "vapor channel seal," as described herein, is a sealing component that ensures an airtight seal and leakproof seal within vapor path or airway. In an embodiment, a vapor channel seal **328** may be around a coil assembly (heating element **382**). A heating coil cotton **332** may be wrapped around or threaded through a heating coil, ensuring that the aerosolizable material comes into contact with the heated coil when apparatus is activated. Heating coil cotton **332** may absorb aerosolizable material, and as the heating coil heats up, vaporizing the aerosolizable material, which may be then inhaled by the user. In a non-limiting example, heating coil cotton **332** may include a wick. In some cases, vapor channel seal **328** may also be configured to perform the function of wicking/funneling control similar to heating coil cotton **332**. Additionally, or alternatively, heating element **382**, vapor channel seal **328**, and heating coil cotton **332** may be disposed inside reservoir **376** isolated from aerosolizable material. Further, vapor channel seal **328** may serve as a seal with vapor tube; However, it also forms an aerosolization chamber when vapor channel seal **328** is inserted onto heating element **382** connected with the reservoir base **336** (i.e., liquid chamber deck).

[0066] Still referring to FIG. **3**A, a reservoir base **336** may connect to reservoir **376**. As used in this disclosure, a "reservoir base" refers to a base section of a reservoir which is connected to a heating element and allows the wicking material to absorb aerosolizable material and deliver it to a

heating element for vaporization. In a non-limiting example, reservoir base **336** with or without heating element **382**, vapor channel seal **328**, and/or heating coil cotton **332** attached may be inserted into reservoir **376** in a direction consistent with body base **304**, along with a reservoir base seal **340**, wherein the reservoir base seal **340** serves to prevent aerosolizable material from leaking out of reservoir **376** onto reservoir base **336** or other internal components such as, without limitation, power source **380**, PCB **386**, and/or the like. Additionally, or alternatively, a reservoir battery seal **344** may be disposed in between reservoir **376** and power source **380** (i.e., under reservoir base **328** and above power source **380**), wherein the reservoir battery seal **344** serve as a secondary protection for power source **380**, preventing aerosolizable material from leaking out through reservoir base **336** into power source **380**.

[0067] Still referring to FIG. **3**A, reservoir **376** may include a reservoir fill port seal **348**. In an embodiment, reservoir **376** may include a reservoir fill port **352**, wherein the reservoir fill port **352** may include a small opening on reservoir **376** and/or outer body **208** of system **200** that allows user to fill reservoir **376** with user-preferred aerosolizable material. In some cases, reservoir fill port may be located on the top of reservoir **376** and covered by reservoir fill port seal **548**. As described herein, a "reservoir fill port seal" is a seal that prevents aerosolizable material from leaking out of a reservoir fill port. In some cases, reservoir fill port seal **348** may include a removable cap or plug. Once reservoir **376** is filled, reservoir fill port seal **348** may be placed into reservoir fill port **352**, sealing the reservoir fill port **352** and preventing e-liquid from leaking out. Reservoir **376** may further include a reservoir seal **356** disposed at the opposite end of reservoir base seal **340**. In a non-limiting example, reservoir seal **356** may be placed around reservoir fill port seal **348** and reservoir fill port **352**. Snapping of mouthpiece **100** onto reservoir **376** may allow for both airflow management and avoiding condensation to seep out by configuring an airtight seal on top of reservoir **376**. Airtight sealing both on top of reservoir **376** through reservoir battery seal **344** and bottom through reservoir base seal **340** may improve stability of active ingredient filled in reservoir **376** as it avoids contact with air (i.e., potential oxidation).

[0068] Still referring to FIG. **3**A, reservoir **376** may include a reservoir cotton **320** wrapped around the outlet of channel **316**. As described herein, a "reservoir cotton" is a component configured to absorb any excess aerosolizable material may have been vaporized by a heating element but not inhaled by the user, preventing aerosolizable material from entering the user's mouth. Further, cotton stand **364** may also be mechanically connected to mouthpiece **100** and hold a further cotton such as, without limitation, a mouthpiece cotton **368**. Mouthpiece cotton **368** may be fixed on top of cotton stand inside mouthpiece **100**. In an embodiment, mouthpiece cotton **368** may be in contact with the outlet of mouthpiece **100** and may be used as a filter configured to help prevent aerosolizable material from entering the user's mouth. In some cases, mouthpiece cotton **368** may also help to reduce condensation and improve the overall vaping experience.

[0069] With continued reference to FIG. **3**A, reservoir **376** may include a plurality of alignment features **372***a-d* on the exterior. As used in this disclosure, an "alignment feature" on the exterior of a reservoir is a physical feature that helps to precisely and securely align and/or fix the reservoir within an outer body. In a non-limiting example, reservoir **376** may be internally coupled to outer body **208** through plurality of alignment features **372***a-d*. In some cases, alignment feature may include one or more male alignment features **372***a-b*, wherein the male alignment features **372***a-b* may include physical features that projects outwardly from reservoir **376**, while the female alignment features **372***c-d* may include corresponding physical feature that is recessed or indented into reservoir **376**, designed to receive and align with male alignment features **372***a-b*. In a non-limiting example, reservoir **376** may be inserted into outer body **208** through press fit and/or snap fit. The interior of outer body may include a plurality of alignment features that match plurality of alignment features **372***a-d* on the reservoir **376**. For instance, and without limitation, female alignment features **372***c-d* may include windows around reservoir **376**, wherein these windows may be configured to fit plurality of male alignment features (e.g., bumps or protrusions) within outer body **208** at a desired location.

[0070] Additionally, or alternatively, and still referring to FIG. **3**A, system **200** may include a top/bottom seal **374***a-b*, wherein the top/bottom seal **374***a-b*. Top seal **374***a* may be placed over (e.g., covering) the mouthpiece **100** while bottom seal **374***b* may be placed over end cap **302** and some portion of outer body **208** towards end cap **302**. In some cases, during fluid e.g., air or vaporized aerosolizable material travel tight top/bottom seal **374***a-b*, such seal may help to stabilize the pressure changes and prevent any leakage that may occur. In an embodiment, one or more rubber extrusions/inserts (within top/bottom seal **374***a-b*) may help further create an airtight seal by inserting the extrusions/inserts into connecting components (e.g., mouthpiece **100**, end cap **302**, and/or the like).

[0071] Referring now to FIG. **3**B, an exemplary embodiment of a reservoir **376** is illustrated. Reservoir **376** may include any reservoir described herein. Reservoir **376** may include reservoir fill port **352** and outlet of channel **316** as described above with reference to FIG. **3**A. Reservoir **376** may be made of durable (PCTG) plastic as described above, resistant to impact, corrosion, and heat, ensuring that the content e.g., aerosolizable material will be purely the nicotine blend. It should also be noted that reservoir **376** may be fully recyclable.

[0072] Referring now to FIG. **3**C, an exemplary embodiment of a reservoir base **336** is illustrated. In some cases, reservoir base **336** may also be known as a liquid chamber deck attached to the bottom of reservoir **376** described herein. In some embodiments, reservoir base **336** may partition and tightly seal power source **380** away from reservoir **376** and heating element **382** e.g., heating coil, ensuring that vaporized aerosolizable material stays clean and pure, and power source **380** remains at a safe temperature. In some cases, reservoir base **336** may also be made of PCTG plastic as described above.

[0073] Referring now to FIG. **3**D, an exemplary embodiment of vapor channel seal **328** is illustrated. In some cases, vapor channel seal **328** may include a heating chamber silicone, wherein the heating chamber silicone is where the vapor condenses. Such vapor channel seal **328** may be made of silicone rubber and may be recycled at a special silicone recycling facility. In some cases, vapor channel seal **328** may connect heating element **382** to vapor tube **324** as described

above and rest, for example, and without limitation, on top of the center partition under reservoir **376**.

[0074] Referring now to FIG. **3**E, an exemplary embodiment of cotton stand **364** is illustrated. In some cases, cotton stand **364** may be part of the fluid control mechanism as described above, wherein cotton stand **364** may be imperative in catching excess condensed vapor as it exists reservoir. In a non-limiting example, cotton stand **364** may include acrylonitrile butadiene styrene/Polycarbonate (ABS/PC) blend, which is a fully recyclable plastic. In some cases, cotton stand **364** may follow recycling code **7** for miscellaneous plastics.

[0075] Now referring to FIG. **4**, a top, back and side perspective view of system **200** including mouthpiece **100** and aerosol delivery device **204** is provided. While mouthpiece **100** is shown as attached to an aerosol delivery device **204**, mouthpiece **100** may be implemented on other devices, such as pod systems, disposable ENDS, inhalers, nebulizers, and other oral drug delivery devices.

[0076] Still referring to FIG. **4**, aerosol delivery device **204** may include a tank or chamber containing aerosols and/or oral medicine that will be vaporized; an atomizer or other heating element to generate heat for vaporization; a sensor and/or processor to detect use and enable power to the atomizer or other heating element; and/or a rechargeable battery for providing power to the atomizer or other heating element.

[0077] Now referring to FIGS. **4-10**, varying views of system **200** are provided. FIG. **4** depicts a view from a perspective to the side, behind and above an exemplary system including an aerosol delivery device and a mouthpiece. System **200** may include mouthpiece **100** and aerosol delivery device **204**.

[0078] Now referring to FIGS. **5** and **6**, front and back views are provided. FIG. **5** depicts a front view of an exemplary aerosol delivery device. FIG. **6** depicts a rear view of an exemplary system including an aerosol delivery device and a mouthpiece. Mouthpiece **100** may include one or more apertures on aerosol release end **108**. In some embodiments, an aperture may include a filter component **604**. In some embodiments, a filter component may include one or more openings **608**.

[0079] Now referring to FIGS. **7** and **8**, side views are provided. FIG. **7** depicts a left side view of an exemplary system including an aerosol delivery device and a mouthpiece. FIG. **8** depicts a right side view of an exemplary system including an aerosol delivery device and a mouthpiece. In some embodiments, aerosol delivery device attachment end **104** of mouthpiece **100** may include central top edge **704** parallel to a lateral axis of the mouthpiece, central bottom edge **708** parallel to a lateral axis of the mouthpiece, left side edge **712**; and right side edge **804**. In some embodiments, aerosol delivery device attachment end **104**, central top edge **704** and central bottom edge **708** may each be forward of left side edge **712** and right side edge **804** along a longitudinal axis, except where the edges meet. In some embodiments, mouthpiece **100** may include a top surface **716** and a bottom surface **720**. Top surface **716** and bottom surface **720** may be consistent with top surface and bottom surface described with reference to FIG. **1**.

[0080] Now referring to FIGS. **9** and **10**, side views are provided. FIG. **9** depicts a top view of an exemplary system including an aerosol delivery device and a mouthpiece. FIG. **10** depicts a bottom view of an exemplary system including an aerosol delivery device and a mouthpiece.

[0081] Now referring to FIG. **11**, a font view of an exemplary embodiment of mouthpiece **100** is provided. in some embodiments, mouthpiece **100** may include port **1104** which may connect to aerosol delivery device **204**. In some embodiments, mouthpiece **100** may include channel **1108** which may connect port **1104** to first aperture **112** and/or second aperture **116**. In some embodiments, user may draw aerosol from aerosol delivery device **204**, through port **1104**, channel **1108**, and one or both of first aperture **112** and second aperture **116**. Channel **1108** and port **1104** may be consistent with any channel and port (respectively) discussed with reference to FIG. **1**.

[0082] It is to be noted that any one or more of the aspects and embodiments described herein may be conveniently implemented using one or more machines (e.g., one or more computing devices that are utilized as a user computing device for an electronic document, one or more server devices, such as a document server, etc.) programmed according to the teachings of the present specification, as will be apparent to those of ordinary skill in the computer art. Appropriate software coding can readily be prepared by skilled programmers based on the teachings of the present disclosure, as will be apparent to those of ordinary skill in the software art. Aspects and implementations discussed above employing software and/or software modules may also include appropriate hardware for assisting in the implementation of the machine executable instructions of the software and/or software module.

[0083] Such software may be a computer program product that employs a machine-readable storage medium. A machine-readable storage medium may be any medium that is capable of storing and/or encoding a sequence of instructions for execution by a machine (e.g., Compact Disc LCD), Compact Disc-recordable (CD-R), Digital Versatile Disc (DVD), Digital Versatile Disk-recordable (DVD-R), etc.), a magneto-optical disk, a read-only memory "(ROM") device, a random access memory "(RAM") device, a magnetic card, an optical card, a solid-state memory device, an Erasable Programmable Ready-Only Memory (EPROM), an Electronically Erasable Programmable Ready-Only Memory (EEPROM), and any combinations thereof. A machine-readable medium, as used herein, is intended to include a single medium as well as a collection of physically separate media, such as, for example, a collection of compact discs or one or more hard disk drives in combination with a computer memory. As used herein, a machine-readable storage medium does not include transitory forms of signal transmission.

[0084] Such software may also include information (e.g., data) carried as a data signal on a data carrier, such as a carrier wave. For example, machine-executable information may be included as a data-carrying signal embodied in a data carrier in which the signal encodes a sequence of instruction, or portion thereof, for execution by a machine (e.g., a computing device) and any related information (e.g., data structures and data) that causes the machine to perform any one of the methodologies and/or embodiments described herein.

[0085] Examples of a computing device include, but are not limited to, an electronic book reading device, a computer workstation, a terminal computer, a server computer, a handheld device (e.g., a tablet computer, a smartphone, etc.),

a web appliance, a network router, a network switch, a network bridge, any machine capable of executing a sequence of instructions that specify an action to be taken by that machine, and any combinations thereof. In one example, a computing device may include and/or be included in a kiosk.

[0086] FIG. **12** shows a diagrammatic representation of one embodiment of a computing device in the exemplary form of a computer system **1200** within which a set of instructions for causing a control system to perform any one or more of the aspects and/or methodologies of the present disclosure may be executed. It is also contemplated that multiple computing devices may be utilized to implement a specially configured set of instructions for causing one or more of the devices to perform any one or more of the aspects and/or methodologies of the present disclosure. Computer system **1200** includes a processor **1204** and a memory **1208** that communicate with each other, and with other components, via a bus **1212**. Bus **1212** may include any of several types of bus structures including, but not limited to, a memory bus, a memory controller, a peripheral bus, a local bus, and any combinations thereof, using any of a variety of bus architectures.

[0087] Processor **1204** may include any suitable processor, such as without limitation a processor incorporating logical circuitry for performing arithmetic and logical operations, such as an arithmetic and logic unit (ALU), which may be regulated with a state machine and directed by operational inputs from memory and/or sensors; processor **1204** may be organized according to Von Neumann and/or Harvard architecture as a non-limiting example. Processor **1204** may include, incorporate, and/or be incorporated in, without limitation, a microcontroller, microprocessor, digital signal processor (DSP), Field Programmable Gate Array (FPGA), Complex Programmable Logic Device (CPLD), Graphical Processing Unit (GPU), general purpose GPU, Tensor Processing Unit (TPU), analog or mixed signal processor, Trusted Platform Module (TPM), a floating point unit (FPU), and/or system on a chip (SoC).

[0088] Memory **1208** may include various components (e.g., machine-readable media) including, but not limited to, a random-access memory component, a read only component, and any combinations thereof. In one example, a basic input/output system **1216** (BIOS), including basic routines that help to transfer information between elements within computer system **1200**, such as during start-up, may be stored in memory **1208**. Memory **1208** may also include (e.g., stored on one or more machine-readable media) instructions (e.g., software) **1220** embodying any one or more of the aspects and/or methodologies of the present disclosure. In another example, memory **1208** may further include any number of program modules including, but not limited to, an operating system, one or more application programs, other program modules, program data, and any combinations thereof.

[0089] Computer system **1200** may also include a storage device **1224**. Examples of a storage device (e.g., storage device **1224**) include, but are not limited to, a hard disk drive, a magnetic disk drive, an optical disc drive in combination with an optical medium, a solid-state memory device, and any combinations thereof. Storage device **1224** may be connected to bus **1212** by an appropriate interface (not shown). Example interfaces include, but are not limited to, SCSI, advanced technology attachment (ATA), serial ATA, universal serial bus (USB), IEEE 1394 (FIREWIRE), and any combinations thereof. In one example, storage device **1224** (or one or more components thereof) may be removably interfaced with computer system **1200** (e.g., via an external port connector (not shown)). Particularly, storage device **1224** and an associated machine-readable medium **1228** may provide nonvolatile and/or volatile storage of machine-readable instructions, data structures, program modules, and/or other data for computer system **1200**. In one example, software **1220** may reside, completely or partially, within machine-readable medium **1228**. In another example, software **1220** may reside, completely or partially, within processor **1204**.

[0090] Computer system **1200** may also include an input device **1232**. In one example, a user of computer system **1200** may enter commands and/or other information into computer system **1200** via input device **1232**. Examples of an input device **1232** include, but are not limited to, an alpha-numeric input device (e.g., a keyboard), a pointing device, a joystick, a gamepad, an audio input device (e.g., a microphone, a voice response system, etc.), a cursor control device (e.g., a mouse), a touchpad, an optical scanner, a video capture device (e.g., a still camera, a video camera), a touchscreen, and any combinations thereof. Input device **1232** may be interfaced to bus **1212** via any of a variety of interfaces (not shown) including, but not limited to, a serial interface, a parallel interface, a game port, a USB interface, a FIREWIRE interface, a direct interface to bus **1212**, and any combinations thereof. Input device **1232** may include a touch screen interface that may be a part of or separate from display **1236**, discussed further below. Input device **1232** may be utilized as a user selection device for selecting one or more graphical representations in a graphical interface as described above.

[0091] A user may also input commands and/or other information to computer system **1200** via storage device **1224** (e.g., a removable disk drive, a flash drive, etc.) and/or network interface device **1240**. A network interface device, such as network interface device **1240**, may be utilized for connecting computer system **1200** to one or more of a variety of networks, such as network **1244**, and one or more remote devices **1248** connected thereto. Examples of a network interface device include, but are not limited to, a network interface card (e.g., a mobile network interface card, a LAN card), a modem, and any combination thereof. Examples of a network include, but are not limited to, a wide area network (e.g., the Internet, an enterprise network), a local area network (e.g., a network associated with an office, a building, a campus or other relatively small geographic space), a telephone network, a data network associated with a telephone/voice provider (e.g., a mobile communications provider data and/or voice network), a direct connection between two computing devices, and any combinations thereof. A network, such as network **1244**, may employ a wired and/or a wireless mode of communication. In general, any network topology may be used. Information (e.g., data, software **1220**, etc.) may be communicated to and/or from computer

System **1200** Via Network Interface Device **1240**.

[0092] Computer system **1200** may further include a video display adapter **1252** for communicating a displayable image to a display device, such as display device **1236**. Examples of a display device include, but are not limited to,

a liquid crystal display (LCD), a cathode ray tube (CRT), a plasma display, a light emitting diode (LED) display, and any combinations thereof. Display adapter **1252** and display device **1236** may be utilized in combination with processor **1204** to provide graphical representations of aspects of the present disclosure. In addition to a display device, computer system **1200** may include one or more other peripheral output devices including, but not limited to, an audio speaker, a printer, and any combinations thereof. Such peripheral output devices may be connected to bus **1212** via a peripheral interface **1256**. Examples of a peripheral interface include, but are not limited to, a serial port, a USB connection, a FIREWIRE connection, a parallel connection, and any combinations thereof.

[0093] The foregoing has been a detailed description of illustrative embodiments of the invention. Various modifications and additions can be made without departing from the spirit and scope of this invention. Features of each of the various embodiments described above may be combined with features of other described embodiments as appropriate in order to provide a multiplicity of feature combinations in associated new embodiments. Furthermore, while the foregoing describes a number of separate embodiments, what has been described herein is merely illustrative of the application of the principles of the present invention. Additionally, although particular methods herein may be illustrated and/or described as being performed in a specific order, the ordering is highly variable within ordinary skill to achieve systems, methods, and devices according to the present disclosure. Accordingly, this description is meant to be taken only by way of example, and not to otherwise limit the scope of this invention.

[0094] Exemplary embodiments have been disclosed above and illustrated in the accompanying drawings. It will be understood by those skilled in the art that various changes, omissions and additions may be made to that which is specifically disclosed herein without departing from the spirit and scope of the present invention.

1. A reservoir for an aerosol delivery device, comprising:

a body having a first end, a second end disposed opposite the first end along a longitudinal axis of the reservoir, the body defining an interior cavity configured to contain a vaporizable material;

a vapor tube extending along the longitudinal axis of the reservoir within the interior cavity to connect to the second end;

a vapor channel connected to the second end and extending outwardly from the second end along the longitudinal axis of the reservoir;

a cotton absorption pad encasing the vapor channel;

a reservoir fill port connected to the second end and extending outwardly from the second end;

a reservoir fill port seal configured to prevent egress of the vaporizable material from the reservoir fill port; and

an alignment feature,

wherein at least one alignment feature is disposed on the reservoir fill port.

2. The reservoir of claim **1**, wherein the first end is configured to be disposed nearer a power source of the aerosol delivery device and the second end is configured to be disposed nearer a mouthpiece of an aerosol delivery device system.

3. The reservoir of claim **1**, further comprising a reservoir seal disposed around a circumference of the body directly adjacent the second end.

4. The reservoir of claim **3**, wherein the reservoir seal is configured to engage with a mouthpiece, when the reservoir is incorporated into an aerosol delivery device system.

5. The reservoir of claim **1**, wherein the reservoir fill port is in fluid connection with the interior cavity.

6. The reservoir of claim **1**, wherein the reservoir fill port is disposed between a radial center of the reservoir and an outer edge of the reservoir.

7. The reservoir of claim **1**, wherein the reservoir fill port comprises a plurality of reservoir fill ports.

8. The reservoir of claim **1**, further comprising a stabilizing structure connected to the second end and extending outwardly from the second end, and an alignment feature disposed on the stabilizing structure.

9. The reservoir of claim **1**, wherein the reservoir fill port seal is at least one of a plug disposed within the reservoir fill port or a cap connected to an end of the reservoir fill port.

10. The reservoir of claim **1**, wherein the vapor tube and the vapor channel are in fluidic connection so as to provide a continuous path for flow of a vapor in a direction from the first end to the second end of the reservoir.

11. The reservoir of claim **1**, wherein the vapor channel is disposed in a radial center of the reservoir.

12. The reservoir of claim **1**, wherein the alignment feature comprises a plurality of alignment features.

13. The reservoir of claim **1**, wherein the alignment feature comprises at least one of a male alignment feature which projects outwardly or a female alignment feature which is recessed.

14. A reservoir assembly, comprising:

the reservoir of claim **1**;

a heating element disposed within the interior cavity;

a vapor channel seal connected to the vapor tube and surrounding the heating element;

a reservoir base connected to the first end of the body.

15. The reservoir assembly of claim **14**, wherein the vapor channel seal is connected with the reservoir base to form an aerosolization chamber in combination with the reservoir base, the aerosolization chamber housing the heating element therein.

16. The reservoir assembly of claim **14**, wherein the vapor channel seal is configured to provide an airtight seal within a vapor path from the heating element through the vapor tube.

17. The reservoir assembly of claim **14**, further comprising a reservoir battery seal connected to the first end of the reservoir body.

18. The reservoir assembly of claim **17**, wherein the reservoir battery seal is configured to engage with a portion of the aerosol delivery device which houses the power source, when the reservoir is incorporated into the aerosol delivery device.

19. An aerosol delivery device system, comprising:

the aerosol delivery device comprising the reservoir of claim **1**, a power source, and an outer body; and

a mouthpiece,

wherein the vapor channel, the cotton absorption pad, the reservoir fill port, the reservoir fill port seal, and the alignment feature are disposed within the mouthpiece.

20. The aerosol delivery device system of claim **19**, wherein the alignment feature disposed on the reservoir fill port is engaged with a corresponding alignment feature within the mouthpiece.

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