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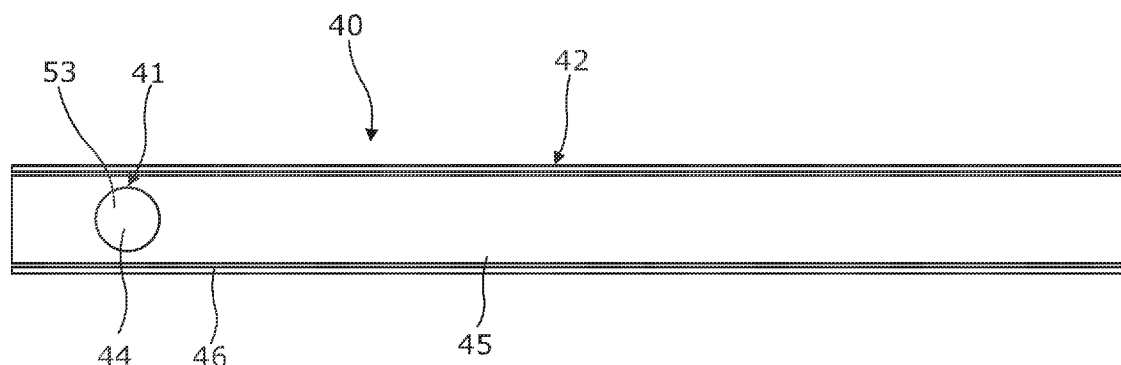


Fig. 5

(57) Abstract: An article for insertion into an aerosol provision device, the article comprising a frangible reservoir containing a liquid that, when broken, causes said liquid to wet an external surface of the article and/or causes said article to swell.



Article for use in an aerosol provision system

Technical Field

The present invention relates to an article for use in a non-combustible aerosol
5 provision system and a non-combustible aerosol provision system including an article.

Background

Certain tobacco industry products produce an aerosol during use, which is inhaled by a
user. For example, tobacco heating devices heat an aerosol generating substrate such
10 as tobacco to form an aerosol by heating, but not burning, the substrate.

Summary

In some embodiments described herein, there is provided an article for insertion into
an aerosol provision device, the article comprising a frangible reservoir containing a
15 liquid that, when broken, causes said liquid to wet an external surface of the article
and/or causes said article to swell.

The frangible reservoir may extend centrally along a longitudinal axis of the article.

20 The frangible reservoir may comprise a snap strength of 1N to 20N.

The frangible reservoir may comprise a capsule.

The frangible reservoir may be configured to break in response to being heated.
25

The article may further comprise a layer of absorbent and/or wicking material disposed
around the frangible reservoir.

The layer of absorbent and/or wicking material may comprise fibres selected from any
30 of: cellulose acetate, paper, cotton, viscose, nylon, polypropylene or polyester; or may
comprise a polyurethane laminate.

The layer of absorbent and/or wicking material may be rod shaped.

35 The layer of absorbent and/or wicking material may be wrapped in a wrapper.

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The wrapper may be porous.

The wrapper may comprise an abrasive outer surface.

5 The abrasive surface may comprise at least one protrusion.

The abrasive outer surface may be corrugated.

The abrasive surface may be embossed into the wrapper.

10

The abrasive surface may comprise abrasive particles embedded in and/or adhered to the wrapper.

The abrasive particles may comprise fibres.

15

The fibres may comprise bristles extending in a direction perpendicular to a longitudinal axis of the article.

The frangible liquid reservoir may comprise a minimum volume of 1ml.

20

The liquid may comprise at least one of isopropyl alcohol, iodine or water.

In some embodiments described herein, there is provided a system comprising an aerosol provision device and an article according to any of claims 1 to 13, the aerosol provision device comprising a heating assembly having a wall that at least partially defines a chamber for receiving a consumable of the aerosol provision device, said wall being configured to heat a consumable received within said chamber during use.

In some embodiments described herein, there is provided a consumable for insertion into an aerosol provision device, the aerosol provision device comprising a heating assembly having a wall that at least partially defines a chamber for receiving said consumable for heating during use of the device, wherein heating said consumable causes condensate to form and be deposited on said wall, the consumable comprising an aerosol generating material and a section configured to swell when wetted by condensate generated during use of the consumable, so that, when said consumable is

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heated, said section swells into contact with said wall of said chamber to remove said condensate from said wall by abrasion with said wall.

5 The consumable may comprise a mouth end and a distal end, wherein the mouth end is configured to protrude from an aerosol provision device and the distal end is configured to be inserted furthest into a chamber of an aerosol provision device, the distal end comprising the said section configured to swell when wetted by condensate.

10 The section configured to swell when wetted by condensate may comprise a super absorbent polymer.

The aerosol generating material and said section configured to swell when wetted by condensate may be at least partially wrapped and in a wrapper.

15 The wrapper may comprise an abrasive outer surface and wherein said abrasive outer surface is disposed overlying said section.

The abrasive surface may comprise at least one protrusion.

20 The abrasive outer surface may be corrugated.

The abrasive surface may be embossed into the wrapper.

25 The abrasive surface may comprise abrasive particles embedded in and/or adhered to the wrapper.

The abrasive particles may comprise fibres.

30 The fibres may comprise bristles extending in a direction perpendicular to a longitudinal axis of the article.

35 In some embodiments described herein, there is provided a system comprising an aerosol provision device and a consumable, the aerosol provision device comprising a heating assembly having a wall that at least partially defines a chamber for receiving a consumable of the aerosol provision device, said wall being configured to heat a consumable received within said chamber during use.

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In some embodiments described herein, there is provided a pack comprising an article and at least one consumable comprising aerosol generating material.

- 5 In some embodiments described herein, there is provided a pack comprising one or more consumables.

In some embodiments described herein, there is provided a method of forming an article comprising:

- 10 providing a frangible reservoir containing a liquid; and forming an article configured for insertion in to an aerosol provision device comprising said frangible reservoir.

- In some embodiments described herein, there is provided a method of forming a consumable comprising:

- 15 providing an aerosol generating material;
providing a section configured to swell when wetted; and
combining said section configured to swell when wetted with said section of aerosol generating material.

20

Brief Description of the Drawings

Embodiments of the invention will now be described, by way of example only, with reference to the accompanying drawings, in which:

- 25 Figure 1 schematically illustrates an aerosol provision device;
Figure 2 schematically illustrates an aerosol provision device;
Figure 3 schematically illustrates a consumable;
Figure 4 schematically illustrates an article according to embodiments of the invention;
Figure 5 schematically illustrated an article according to embodiments of the invention;
30 Figures 6A to 6E illustrate various abrasive surfaces according to embodiments of the invention;
Figure 7 schematically illustrates a consumable according to embodiments of the invention; and
Figures 8A to 8E illustrate various abrasive surfaces according to embodiments of the
35 invention.

Detailed Description

According to the present disclosure, a “non-combustible” aerosol provision system is one where a constituent aerosol-generating material of the aerosol provision system (or
5 component thereof) is not combusted or burned in order to facilitate delivery of at least one substance to a user.

In some embodiments, the non-combustible aerosol provision system comprises an aerosol-generating material heating system, also known as a heat-not-burn system. An example of such a system is a tobacco heating system.

10 In some embodiments, the non-combustible aerosol provision system comprises a hybrid system to generate aerosol using a combination of aerosol-generating materials, one or a plurality of which may be heated. Each of the aerosol-generating materials may be, for example, in the form of a solid, liquid or gel and may or may not contain nicotine. In some embodiments, the hybrid system comprises a liquid or gel aerosol-
15 generating material and a solid aerosol-generating material. The solid aerosol-generating material may comprise, for example, tobacco or a non-tobacco product.

Typically, the non-combustible aerosol provision system may comprise a non-combustible aerosol provision device and a consumable for use with the non-combustible aerosol provision device.

20 In some embodiments, the disclosure relates to consumables comprising aerosol-generating material and configured to be used with non-combustible aerosol provision devices. These consumables are sometimes referred to as articles throughout the disclosure.

In some embodiments, the non-combustible aerosol provision system, such as a non-
25 combustible aerosol provision device thereof, may comprise a power source and a controller. The power source may, for example, be an electric power source or an exothermic power source. In some embodiments, the exothermic power source comprises a carbon substrate which may be energised so as to distribute power in the form of heat to an aerosol-generating material or to a heat transfer material in
30 proximity to the exothermic power source.

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In some embodiments, the non-combustible aerosol provision system may comprise an area for receiving the consumable, an aerosol generator, an aerosol generation area, a housing, a mouthpiece, a filter and/or an aerosol-modifying agent.

5 In some embodiments, the consumable for use with the non-combustible aerosol provision device may comprise aerosol-generating material, an aerosol-generating material storage area, an aerosol-generating material transfer component, an aerosol generator, an aerosol generation area, a housing, a wrapper, a filter, a mouthpiece, and/or an aerosol-modifying agent.

In some embodiments, the substance to be delivered comprises an active substance.

10 The active substance as used herein may be a physiologically active material, which is a material intended to achieve or enhance a physiological response. The active substance may for example be selected from nutraceuticals, nootropics, psychoactives. The active substance may be naturally occurring or synthetically obtained. The active substance may comprise for example nicotine, caffeine, taurine, theine, vitamins such as B6 or
15 B12 or C, melatonin, cannabinoids, or constituents, derivatives, or combinations thereof. The active substance may comprise one or more constituents, derivatives or extracts of tobacco, cannabis or another botanical.

In some embodiments, the active substance comprises nicotine. In some embodiments, the active substance comprises caffeine, melatonin or vitamin B12.

20 As noted herein, the active substance may comprise or be derived from one or more botanicals or constituents, derivatives or extracts thereof. As used herein, the term "botanical" includes any material derived from plants including, but not limited to, extracts, leaves, bark, fibres, stems, roots, seeds, flowers, fruits, pollen, husk, shells or the like. Alternatively, the material may comprise an active compound naturally
25 existing in a botanical, obtained synthetically. The material may be in the form of liquid, gas, solid, powder, dust, crushed particles, granules, pellets, shreds, strips, sheets, or the like. Example botanicals are tobacco, eucalyptus, star anise, hemp, cocoa, cannabis, fennel, lemongrass, peppermint, spearmint, rooibos, chamomile, flax, ginger, ginkgo biloba, hazel, hibiscus, laurel, licorice (liquorice), matcha, mate, orange skin,
30 papaya, rose, sage, tea such as green tea or black tea, thyme, clove, cinnamon, coffee, aniseed (anise), basil, bay leaves, cardamom, coriander, cumin, nutmeg, oregano, paprika, rosemary, saffron, lavender, lemon peel, mint, juniper, elderflower, vanilla, wintergreen, beefsteak plant, curcuma, turmeric, sandalwood, cilantro, bergamot,

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orange blossom, myrtle, cassia, valerian, pimento, mace, damien, marjoram, olive, lemon balm, lemon basil, chive, carvi, verbena, tarragon, geranium, mulberry, ginseng, theanine, theacrine, maca, ashwagandha, damiana, guarana, chlorophyll, baobab or any combination thereof. The mint may be chosen from the following mint varieties:

5 *Mentha Arvensis*, *Mentha c.v.*, *Mentha niliaca*, *Mentha piperita*, *Mentha piperita citrata c.v.*, *Mentha piperita c.v.*, *Mentha spicata crispa*, *Mentha cardifolia*, *Mentha longifolia*, *Mentha suaveolens variegata*, *Mentha pulegium*, *Mentha spicata c.v.* and *Mentha suaveolens*

10 In some embodiments, the active substance comprises or is derived from one or more botanicals or constituents, derivatives or extracts thereof and the botanical is tobacco.

In some embodiments, the active substance comprises or derived from one or more botanicals or constituents, derivatives or extracts thereof and the botanical is selected from eucalyptus, star anise, cocoa and hemp.

15 In some embodiments, the active substance comprises or derived from one or more botanicals or constituents, derivatives or extracts thereof and the botanical is selected from rooibos and fennel.

In some embodiments, the substance to be delivered comprises a flavour.

20 As used herein, the terms "flavour" and "flavourant" refer to materials which, where local regulations permit, may be used to create a desired taste, aroma or other somatosensorial sensation in a product for adult consumers. They may include naturally occurring flavour materials, botanicals, extracts of botanicals, synthetically obtained materials, or combinations thereof (e.g., tobacco, cannabis, licorice (liquorice), hydrangea, eugenol, Japanese white bark magnolia leaf, chamomile, fenugreek, clove, maple, matcha, menthol, Japanese mint, aniseed (anise), cinnamon, 25 turmeric, Indian spices, Asian spices, herb, wintergreen, cherry, berry, red berry, cranberry, peach, apple, orange, mango, clementine, lemon, lime, tropical fruit, papaya, rhubarb, grape, durian, dragon fruit, cucumber, blueberry, mulberry, citrus fruits, Drambuie, bourbon, scotch, whiskey, gin, tequila, rum, spearmint, peppermint, lavender, aloe vera, cardamom, celery, cascarrilla, nutmeg, sandalwood, bergamot, 30 geranium, khat, naswar, betel, shisha, pine, honey essence, rose oil, vanilla, lemon oil, orange oil, orange blossom, cherry blossom, cassia, caraway, cognac, jasmine, ylang-ylang, sage, fennel, wasabi, piment, ginger, coriander, coffee, hemp, a mint oil from any species of the genus *Mentha*, eucalyptus, star anise, cocoa, lemongrass, rooibos, flax,

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ginkgo biloba, hazel, hibiscus, laurel, mate, orange skin, rose, tea such as green tea or black tea, thyme, juniper, elderflower, basil, bay leaves, cumin, oregano, paprika, rosemary, saffron, lemon peel, mint, beefsteak plant, curcuma, cilantro, myrtle, cassis, valerian, pimento, mace, damien, marjoram, olive, lemon balm, lemon basil, chive, carvi, verbena, tarragon, limonene, thymol, camphene), flavour enhancers, bitterness receptor site blockers, sensorial receptor site activators or stimulators, sugars and/or sugar substitutes (e.g., sucralose, acesulfame potassium, aspartame, saccharine, cyclamates, lactose, sucrose, glucose, fructose, sorbitol, or mannitol), and other additives such as charcoal, chlorophyll, minerals, botanicals, or breath freshening agents. They may be imitation, synthetic or natural ingredients or blends thereof. They may be in any suitable form, for example, liquid such as an oil, solid such as a powder, or gas.

In some embodiments, the flavour comprises menthol, spearmint and/or peppermint. In some embodiments, the flavour comprises flavour components of cucumber, blueberry, citrus fruits and/or redberry. In some embodiments, the flavour comprises eugenol. In some embodiments, the flavour comprises flavour components extracted from tobacco. In some embodiments, the flavour comprises flavour components extracted from cannabis.

In some embodiments, the flavour may comprise a sensate, which is intended to achieve a somatosensorial sensation which are usually chemically induced and perceived by the stimulation of the fifth cranial nerve (trigeminal nerve), in addition to or in place of aroma or taste nerves, and these may include agents providing heating, cooling, tingling, numbing effect. A suitable heat effect agent may be, but is not limited to, vanillyl ethyl ether and a suitable cooling agent may be, but not limited to eucalyptol, WS-3.

Aerosol-generating material is a material that is capable of generating aerosol, for example when heated, irradiated or energized in any other way. Aerosol-generating material may, for example, be in the form of a solid, liquid or gel which may or may not contain an active substance and/or flavourants. In some embodiments, the aerosol-generating material may comprise an “amorphous solid”, which may alternatively be referred to as a “monolithic solid” (i.e. non-fibrous). In some embodiments, the amorphous solid may be a dried gel. The amorphous solid is a solid material that may retain some fluid, such as liquid, within it. In some embodiments, the aerosol-

generating material may for example comprise from about 50wt%, 60wt% or 70wt% of amorphous solid, to about 90wt%, 95wt% or 100wt% of amorphous solid.

The aerosol-generating material may comprise one or more active substances and/or flavours, one or more aerosol-former materials, and optionally one or more other
5 functional material.

The aerosol-former material may comprise one or more constituents capable of forming an aerosol. In some embodiments, the aerosol-former material may comprise one or more of glycerine, glycerol, propylene glycol, diethylene glycol, triethylene glycol, tetraethylene glycol, 1,3-butylene glycol, erythritol, meso-Erythritol, ethyl vanillate,
10 ethyl laurate, a diethyl suberate, triethyl citrate, triacetin, a diacetin mixture, benzyl benzoate, benzyl phenyl acetate, tributyrin, lauryl acetate, lauric acid, myristic acid, and propylene carbonate.

The one or more other functional materials may comprise one or more of pH regulators, colouring agents, preservatives, binders, fillers, stabilizers, and/or
15 antioxidants.

The material may be present on or in a support, to form a substrate. The support may, for example, be or comprise paper, card, paperboard, cardboard, reconstituted material, a plastics material, a ceramic material, a composite material, glass, a metal, or a metal alloy. In some embodiments, the support comprises a susceptor. In some
20 embodiments, the susceptor is embedded within the material. In some alternative embodiments, the susceptor is on one or either side of the material.

A consumable is an article comprising or consisting of aerosol-generating material, part or all of which is intended to be consumed during use by a user. A consumable may comprise one or more other components, such as an aerosol-generating material
25 storage area, an aerosol-generating material transfer component, an aerosol generation area, a housing, a wrapper, a mouthpiece, a filter and/or an aerosol-modifying agent. A consumable may also comprise an aerosol generator, such as a heater, that emits heat to cause the aerosol-generating material to generate aerosol in use. The heater may, for example, comprise combustible material, a material heatable by electrical conduction,
30 or a susceptor.

An aerosol-modifying agent is a substance, typically located downstream of the aerosol generation area, that is configured to modify the aerosol generated, for example by

changing the taste, flavour, acidity or another characteristic of the aerosol. The aerosol-modifying agent may be provided in an aerosol-modifying agent release component, that is operable to selectively release the aerosol-modifying agent

5 The aerosol-modifying agent may, for example, be an additive or a sorbent. The aerosol-modifying agent may, for example, comprise one or more of a flavourant, a colourant, water, and a carbon adsorbent. The aerosol-modifying agent may, for example, be a solid, a liquid, or a gel. The aerosol-modifying agent may be in powder, thread or granule form. The aerosol-modifying agent may be free from filtration material.

10 An aerosol generator is an apparatus configured to cause aerosol to be generated from the aerosol-generating material. In some embodiments, the aerosol generator is a heater configured to subject the aerosol-generating material to heat energy, so as to release one or more volatiles from the aerosol-generating material to form an aerosol. In some embodiments, the aerosol generator is configured to cause an aerosol to be
15 generated from the aerosol-generating material without heating. For example, the aerosol generator may be configured to subject the aerosol-generating material to one or more of vibration, increased pressure, or electrostatic energy.

In the figures described herein, like reference numerals are used to illustrate equivalent features, articles or components.

20 A non-combustible aerosol provision device 1 (herein referred to simply as the 'device 1') is shown schematically in Fig. 1. The device 1 comprises a wall 2 that defines a rod shaped consumable receiving space 3 (herein referred to simply as 'receiving space 3'); and a heater 4 configured to heat the consumable receiving space 3.

The device further comprises a power source 7 and a control unit 8 which are
25 configured to power and control the heater 4, respectively. The power source 7 may be, for example, a battery 7, such as a rechargeable battery or a non-rechargeable battery. Examples of suitable batteries include, for example, a lithium battery (such as a lithium-ion battery), a nickel battery (such as a nickel-cadmium battery), and an alkaline battery.

30 The various components of the device, including the heater 4, receiving space 3, battery 7 and control unit 8 are retained within a housing 6.

The device 1 is of the approximate size and shape to allow a user to hold the device 1 in a single hand. In use, a consumable 11 comprising an aerosol generating material is inserted into the receiving space 3 and heated by the heater 4. The heat causes one or more volatiles from the aerosol-generating material to form an aerosol. A mouth end 12 of the consumable protrudes from the device as illustrated by Fig. 2. To inhale the aerosol generated by the heated consumable 11, a user draws on the mouth end 12 of the consumable 11, in the manner of a conventional cigarette.

The device further comprises an inlet 9 as shown in fig. 1. When a user draws on the consumable 11, air is drawn from the inlet 9 and through the consumable.

The device 1 further comprises a first activation button 13 to allow a user to turn the device 1 on or off; and a second activation button 14 to activate the heater 4. To use the device 1, a user draws on the mouth end 12 of the consumable 11 while simultaneously pressing the second activation button 14 to cause the heater 4 to heat the consumable 11 and generate an aerosol.

The inlet 9 may comprise a pressure sensor (not shown) which acts as a 'puff sensor'. The puff sensor is configured to detect a drop in pressure at the air inlet 9 which indicates that a user is drawing on a consumable 11 located within the receiving space 3. The device 1 is thereby configured to activate the heater 4 in response to a drop in pressure detected at the air inlet 9.

The control unit 8 is configured to direct electrical energy from the battery 7 to activate the heater in response to an input signal.

In one example, the input signal is generated when the second activation button 14 is pressed by the user. In another embodiment, the input signal is generated when a pressure drop is detected at the inlet 9 by a pressure sensor.

The heater 4 may be an inductive heating assembly 4 and comprise various components to heat the consumable receiving space via an inductive heating process. Induction heating is a process of heating an electrically conducting object (such as a susceptor) by electromagnetic induction. An induction heating assembly may comprise an inductive element, for example, one or more inductor coils, and a device for passing a varying electric current, such as an alternating electric current, through the inductive element. The varying electric current in the inductive element produces a varying magnetic field. The varying magnetic field penetrates a susceptor suitably positioned with respect to

the inductive element, and generates eddy currents inside the susceptor. The susceptor has electrical resistance to the eddy currents, and hence the flow of the eddy currents against this resistance causes the susceptor to be heated by Joule heating. In cases where the susceptor comprises ferromagnetic material such as iron, nickel or cobalt, heat may also be generated by magnetic hysteresis losses in the susceptor, i.e. by the varying orientation of magnetic dipoles in the magnetic material as a result of their alignment with the varying magnetic field. In inductive heating, as compared to heating by conduction for example, heat is generated inside the susceptor, allowing for rapid heating. Further, there need not be any physical contact between the inductive heater and the susceptor, allowing for enhanced freedom in construction and application.

In the example illustrated by figure 1, the inductive heating assembly comprises a susceptor 23 and an inductor coil 24. The inductor coil 24 is made from an electrically conducting material. In the illustrated embodiment, the inductor coil 24 is made from Litz wire/cable which is wound in a helical fashion about the susceptor 23. Litz wire comprises a plurality of individual wires which are individually insulated and are twisted together to form a single wire. Litz wires are designed to reduce the skin effect losses in a conductor. In the illustrated embodiment, the inductor coil 24 is made from copper Litz wire which has a rectangular cross section. In other examples the Litz wire can have other shape cross sections, such as circular. The inductor coil 24 is configured to generate a varying magnetic field for heating the susceptor 23.

The susceptor 23 of the illustrated embodiment is cylindrical and hollow and forms the wall 2 that defines the receiving space 3 within which the consumable 11 is received. For example, the consumable 11 can be inserted into the susceptor 23. In the illustrated embodiment, the susceptor 23 is tubular, with a circular cross section.

The susceptor 23 may be made from one or more materials. Preferably the susceptor 23 comprises carbon steel having a coating of Nickel or Cobalt.

The device 1 may further comprise an insulating member (not shown). The insulating member may be generally tubular and disposed between the susceptor 23 and the inductor coil 24. The insulating member may be constructed from any insulating material, such as plastic for example. In this particular example, the insulating member is constructed from polyether ether ketone (PEEK). The insulating member may help insulate the various components of the device from the heat generated in the susceptor 23.

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The outer surface of the susceptor 23 may be spaced apart from the inner surface of the inductor coil 24 by a distance, measured in a direction perpendicular to a longitudinal axis of the susceptor 23. In one particular example, the distance is about 3 mm to 4mm, about 3-3.5mm, or about 3.25mm.

5 The outer surface of the insulating member may be spaced apart from the inner surface of the inductor coil 24 by a distance, measured in a direction perpendicular to a longitudinal axis of the susceptor 23. In one particular example, the distance is about 0.05 mm. In another example, the distance is substantially 0mm, such that the inductor coil 24 abuts and touches the insulating member.

10 The susceptor 23 may have a wall thickness of about 0.025mm to 1mm, or about 0.05 mm.

The susceptor 23 may have a length of about 40mm to 60mm, about 40mm to 45 mm, or about 44.5 mm.

The insulating member may have a wall thickness of about 0.25 mm to 2 mm, 0.25 mm
15 to 1mm, or about 0.5 mm.

Figure 3 shows a consumable 11 comprising an aerosol generating material 25. The consumable 11 comprises a distal end 33, opposite the mouth end 12. The distal end is therefore most proximate a base 20 of the receiving space 3 when received therein.

During use of the device 1, some of the aerosol generated when the aerosol generating
20 material is heated will condense during transit through the consumable 11 from the distal end 33 to the mouth end 12. Condensate formed in the consumable 11 has a tendency to leak from the distal end of the consumable 11 and accumulate in the receiving space 3 and form deposits. Embodiments of the invention are configured to remove deposits from the receiving space 3 that have built up over time, following
25 repeated heating of consumables 11.

Figures 4 and 5 show an article 40 according to embodiments of the invention. The article 40 is configured to assist with cleaning of an aerosol provision device, such as the aerosol provision device 1 of Figs. 1 and 2. Use of the article 40 will be described with reference to the features of the aerosol provision device of Figs. 1 and 2.

30 The article 40 is the approximate size and shape of a consumable and is therefore easily provided in a pack of consumables comprising aerosol generating material 25. For

example, one of the consumables of the pack of consumables may be replaced with the articles 40. However, it shall be appreciated that the article 40 may be provided in addition to the regular number of consumables in a pack and may be any size and shape that permits the article 40 to be inserted into a consumable receiving space 3 of an aerosol provision device. The article 40 of figs. 4 and 5 does not comprise aerosol generating material.

The article 40 comprises a frangible reservoir 41 containing a liquid 44 that, when broken, causes the liquid 44 to wet an external surface 42 of the article 40 and/or causes the article 40 to swell.

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In the embodiment of Fig. 4, the frangible reservoir 41 is a rod shaped reservoir 43 that extends centrally along a longitudinal axis of the article 40. In the embodiment of Fig. 5, the frangible reservoir 41 is a capsule 53 embedded within the article 40. However, the embodiments of Figs. 4 and 5 are not considered an exhaustive list of the shape and configuration of the frangible reservoir 41 and it will be appreciated that other configurations of frangible reservoir 41 may be employed without departing from the scope of the invention.

In some embodiments, and as illustrated, the frangible reservoir 41 is encased in a layer of absorbent and/or wicking material 45. The absorbent and/or wicking material 45 may comprise fibres selected from any of: cellulose acetate, paper, cotton, viscose, nylon, polypropylene or polyester; or may comprise a polyurethane laminate.

In some embodiments, and as illustrated, the layer of absorbent and/or wicking material 45 is wrapped in a porous wrapper 46, such as a paper wrapping material. The wrapper 46 circumscribes the layer of absorbent and/or wicking material 45 so that edges of the wrapper 46 overlap. Overlapping edges of the wrapper 46 are adhered along a lap seam.

In the embodiment of Fig. 4, the frangible reservoir 41 is configured to be broken by snapping. In the embodiment of Fig. 5, the frangible reservoir 41 is configured to be broken by crushing. On breaking the frangible reservoir 41, the liquid 44 escapes the frangible reservoir 41 and soaks into the absorbent and/or wicking material 45 and the wrapper 46 to wet the external surface of the article 40.

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In use, the article 40 is bent to snap the frangible liquid reservoir 41 – as in the embodiment of Fig. 4 – or compressed to crush the frangible liquid reservoir 41 – as in the embodiment of Fig. 5 – to release the liquid and wet the external surface 42 of the article 40. The article 40 is then inserted in the receiving space 3 of the aerosol provision device and, by agitation of the article 40, brought into contact with the wall 2 of the aerosol provision device to clean said wall 2 of condensate deposits by abrasion with said wall 2. The liquid may assist the cleaning of said wall 2 by dissolving and/or breaking down the condensate deposits.

10 Preferably, the liquid 44, when released from the frangible liquid reservoir 41, causes the absorbent and/or wicking material 45 to swell and increase the size of the article 40. For example, the article 40 may swell so that the diameter of the article 40 is slightly greater than the diameter of the receiving space 3. Therefore, the article 40 is compressed on insertion into the receiving space 3 so that the outer surface 42 of the article 40 is pressed against said wall 2 defining the receiving space 3.

In some embodiments, the rod shaped reservoir 43 comprises a snap strength of 1-20N. The snap strength load as stated can be measured using a standard three point bending test with the article supported at either end and the load applied centrally. Therefore the support span will be equal to the length of the article 40 which may be between 50mm and 100mm.

In some embodiments, the frangible reservoir 41 is configured to break in response to being heated. For example, the article 40 may be inserted into the receiving space of an aerosol provision device and heated, causing the frangible reservoir 41 to break.

In some embodiments, the frangible liquid 41 reservoir comprises a minimum volume of 1 ml.

30 In some embodiments, the liquid 44 comprises at least one of: isopropyl alcohol, iodine or water.

In some embodiments the wrapper 46 comprises an abrasive outer surface 47 configured to assist in dislodging deposits from the wall 2 of the receiving space 3 when the article 40 is inserted therein.

In some embodiments, the abrasive surface 47 comprises abrasive particles embedded in the wrapper 46. Alternatively, the abrasive surface 47 may be formed by abrasive particles adhered to the wrapper 46 using adhesive. The abrasive surface 47 may extend along a portion of the article 40 or along the entire length of the article 40. The abrasive particles could be in the form of small rock or sand particles. Alternatively, the abrasive particles may be fibres. It is to be appreciated that the abrasive particles can be formed from any substance that will create an abrasive surface capable of dislodging condensate deposits from the wall 2 of the receiving space 3.

Figures 6A to 6E show abrasive surfaces 47 according to embodiments of the invention.

Figure 6A illustrates a side view of the abrasive surface 47 of an article 40. The abrasive surface 47 comprises a protrusion 48. The protrusion 48 is configured to dislodge or remove condensate deposits from the wall 2 of the aerosol provision device 1. The protrusion 48 extends in a direction perpendicular to a longitudinal axis of the article 40 and is configured to contact the wall 2 in order to dislodge or remove condensate deposits via abrasion. The article 40 may comprise multiple protrusions 48 along its length as shown in Figure 6B. The protrusions 48 shown in Figures 6A and 6B have a semi-circular cross section, however it is to be appreciated that the protrusions 48 can be any shape or size in order to be in contact with the wall 2 of the receiving space 3.

The protrusions 48 of the abrasive surface 47 may be in the form of corrugations 49 embossed into the wrapper 46 as shown in Figures 6C and 6D. In Figure 6C the corrugations 49 are formed on the surface of the wrapper 46 and are parallel to a longitudinal axis of the article 40. Alternatively, as shown in Figure 6D, the corrugations 49 are arranged around the circumference of the article 40. It is to be appreciated that the corrugations 49 may extend helically around the article 40 and not linearly as shown.

Figure 6E shows a side view of an alternative article according to the invention. The abrasive surface 47 of the article 40 comprises bristles 50. The bristles 50 extend away from the article 40 in a direction perpendicular to a longitudinal axis of the article 40. The bristles 50 are configured to dislodge or remove condensate deposits within the wall 2 of the receiving space 3 via abrasion.

It is to be appreciated that the abrasive surface 47 of the article 40 may comprise any number features or combination of features. The features can be any shape or arrangement that would ensure that the abrasive surface 47 is capable of dislodging or

removing condensate deposits from the wall 2 of the receiving space 3 via abrasion. The features of the abrasive surface are not limited to the examples as described above.

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Figure 7 shows a consumable 70 comprising aerosol generating material 25 according to embodiments of the invention. The consumable 70 may have any or all of the features of the consumable 11 of Fig. 3. Features in common with the consumable 11 of Fig. 3 retain the same reference numbers. The consumable 70 is configured to assist
10 with cleaning of an aerosol provision device, such as the aerosol provision device 1 of Figs. 1 and 2. Use of the consumable 70 will be described with reference to the features of the aerosol provision device of Figs. 1 and 2.

The consumable 70 comprises a section 71 configured to swell when wetted by
15 condensate generated during use of the consumable 70, so that, when said consumable 70 is heated, said section 71 swells into contact with the wall 2 of the receiving space 3 to remove condensate from said wall 2 by abrasion with said wall 2; for example, when the consumable 70 is removed from the receiving space 3.

20 The section 71 configured to swell when wetted by condensate is disposed adjacent the distal end 33 of the consumable 70 so that, when the consumable is inserted into an aerosol provision device and heated, said section swells, displacing an outer surface 72 of the consumable 70 into contact with the wall 2 of receiving space 3.

25 In some embodiments, said section 71 comprises a super absorbent polymer. In another embodiment, said section 71 comprises cellulosic fibres such as bamboo.

In some embodiments the aerosol generating material 25 comprises a tobacco material 26. The tobacco material 26 may comprise conventionally cured tobacco that has been
30 cut or shredded in the normal way. Such tobacco is similar to the tobacco found in cigarettes.

In another embodiment, the tobacco material may 26 be reconstituted to make a tobacco paper which is then shredded or cut into strips. The tobacco paper may be further impregnated with an aerosol former material such as glycerine, glycerol or
35 propylene glycol. Therefore, heat from the aerosol vaporizes the aerosol former

material as it passes through the rod of aerosol generating material 25 during inhalation by a user. Advantageously, the aerosol former material will be flavoured by the tobacco paper to provide a tobacco flavour to the aerosol.

5 In some embodiments, the tobacco paper comprises longitudinal strips of tobacco paper, each longitudinal strip being arranged substantially parallel to a longitudinal axis of the article. Therefore, the resistance to draw of the rod of aerosol generating material 25 is reduced.

10 In another embodiment, the tobacco material 26 is reconstituted to make beads of tobacco. The beads of tobacco may have a mean diameter of 0.5mm to 3mm. It shall be appreciated that for a given volume occupied by the beads of tobacco, the smaller the mean diameter, the larger the collective surface area presented by the beads of tobacco. Advantageously, the flavour imparted to the aerosol is proportional to the surface area presented by the beads of tobacco.

15 In some embodiments the rod of aerosol generating material 25 comprises a first wrapping material 31. The first wrapping material may be electrically conducting, such as aluminium foil, metalized paper or a braided ferrous material. Therefore the first wrapping material may serve as an additional susceptor to the inductive heating assembly 22. The first wrapping material circumscribes the rod of aerosol generating material 25 so that edges of the first wrapping material 31 overlap. Overlapping edges
20 of the first wrapping material are adhered along a lap seam.

In some embodiments, and as illustrated in Fig. 7, the section 71 comprises a rod shaped section 71. The rod shaped section may be attached to a distal end of the rod of aerosol generating material 25 by the first wrapping material 31.

25 The rod of aerosol generating material 25 is attached to a filter section 27 by a wrapper 28, such as tipping material or cigarette paper. The wrapper 28 circumscribes the rod of aerosol generating material 25 and the filter section 27 so that edges of the wrapper 28 overlap. Overlapping edges of the wrapper 28 are adhered along a lap seam.

30 The first wrapping material 31 and the wrapper 28 may comprise lines of weakening (not shown) that overly said section 71. The lines of weakening may comprise cuts in the wrapper 28 and first wrapping material 31 that allow the wrapper 28 and the first wrapping material 31 to expand outward when said section 71 swells.

In some embodiments the wrapper 28 comprises an abrasive outer surface 87 configured to assist in dislodging deposits from the wall 2 of the receiving space 3 when the article 40 is inserted therein.

5 In some embodiments, the abrasive surface 87 comprises abrasive particles embedded in the wrapper 28. Alternatively, the abrasive surface 87 may be formed by abrasive particles adhered to the wrapper 28 using adhesive. The abrasive surface 87 may extend along a portion of the consumable 70 or along the entire length of the consumable 70. The abrasive particles could be in the form of small rock or sand particles. Alternatively, the abrasive particles may be fibres. It is to be appreciated that
10 the abrasive particles can be formed from any substance that will create an abrasive surface capable of dislodging condensate deposits from the wall 2 of the receiving space 3.

Figures 8A to 8E show abrasive surfaces 87 according to embodiments of the invention.

Figure 8A illustrates a side view of the abrasive surface 87 of a consumable 70. The
15 abrasive surface 87 comprises a protrusion 88. The protrusion 88 is configured to dislodge or remove condensate deposits from the wall 2 of the aerosol provision device 1. The protrusion 88 extends in a direction perpendicular to a longitudinal axis of the consumable 70 and is configured to contact the wall 2 in order to dislodge or remove condensate deposits via abrasion. The consumable 70 may comprise multiple
20 protrusions 88 along its length as shown in Figure 8B. The protrusions 88 shown in Figures 8A and 8B have a semi-circular cross section, however it is to be appreciated that the protrusions 88 can be any shape or size in order to be in contact with the wall 2 of the receiving space 3.

The protrusions 88 of the abrasive surface 87 may be in the form of corrugations 89
25 embossed into the wrapper 28 as shown in Figures 8C and 8D. In Figure 8C the corrugations 89 are formed on the surface of the wrapper 28 and are parallel to a longitudinal axis of the consumable 70. Alternatively, as shown in Figure 8D, the corrugations 89 are arranged around the circumference of the consumable 70. It is to be appreciated that the corrugations 89 may extend helically around the consumable 70
30 and not linearly as shown.

Figure 8E shows a side view of an abrasive surface 87 according to an embodiment of the invention. The abrasive surface 87 of the consumable 70 comprises bristles 90. The bristles 90 extend away from the consumable 70 in a direction perpendicular to a

longitudinal axis of the consumable 70. The bristles 50 are configured to dislodge or remove condensate deposits within the wall 2 of the receiving space 3 via abrasion.

It is to be appreciated that the abrasive surface 87 of the consumable 70 may comprise any number features or combination of features. The features can be any shape or
5 arrangement that would ensure that the abrasive surface 87 is capable of dislodging or removing condensate deposits from the wall 2 of the receiving space 3 via abrasion. The features of the abrasive surface 87 are not limited to the examples as described above.

Referring again to Figure 7, the filter section 27 comprises a cylindrical body of filter material wrapped in a plug wrap 32. The plug wrap 32 is disposed between the filter
10 material and the wrapper 28.

In some embodiments, the distal end 33 of the consumable 70 further comprises a plug 29. The plug 29 comprises a disc of material that extends across the end of the rod of aerosol generating material and is attached thereto by the wrapper 28. In some
15 embodiments, the plug 29 further comprises a plug wrapper 30 disposed between the plug and the wrapper 28.

In some embodiments, the plug 29 may be impermeable to prevent condensate from leaking out of the distal end of the consumable 70, during use.

In the present example, the consumable 70 has an outer circumference of about 21 mm (i.e. the consumable is in the demi-slim format). Preferably, the consumable 70 has a
20 rod of aerosol generating material 25 with a circumference greater than 19mm. Where the consumable 70 is heated, heat transfers through the rod of aerosol generating material 25 to volatise components of the rod of aerosol generating material 25, and circumferences greater than 19mm have been found to be particularly effective at producing an aerosol in this way. Since the consumable 70 may be heated to release an
25 aerosol, improved heating efficiency can be achieved using consumables 70 having circumferences of less than about 23mm. To achieve improved aerosol via heating, while maintaining a suitable product length, circumferences of greater than 19mm and less than 23mm are preferable. In some examples, the circumference can be between 20mm and 22mm, which has been found to provide a good balance between providing
30 effective aerosol delivery while allowing for efficient heating.

The outer circumference of the filter section 27 is substantially the same as the outer circumference of the rod of aerosol generating material 25 and the plug 29, such that

there is a smooth transition between these components. In the present example, the outer circumference of the filter section 27 is about 20.8mm.

The wrapper 28 can have a basis weight which is higher than the basis weight of the other wrapping materials 30, 31, 32 used in the consumable 70, for instance a basis
5 weight of 40 gsm to 80 gsm, more preferably between 50 gsm and 70 gsm, and in the present example 58 gsm. These ranges of basis weights have been found to result in tipping materials having acceptable tensile strength while being flexible enough to wrap around the consumable 70 and adhere to itself along overlapping longitudinal edges.

In some examples, the wrapper 28 and/or the first wrapping material 31 and/or plug
10 wrapper 30 comprises citrate, such as sodium citrate or potassium citrate. In such examples, the materials 28, 31, 30 may have a citrate content of 2% by weight or less, or 1% by weight or less. Reducing the citrate content is thought to assist with reducing the charring effect which may occur during use.

In some embodiments, the respective wrapping materials 30, 31, 32 of the plug 29, rod
15 of aerosol generating material 25 and filter section 27 have a basis weight of less than 50 gsm, more preferably between about 20 gsm and 40 gsm. Preferably, said wrapping materials 30, 31, 32 have a thickness of between 30 μm and 60 μm , more preferably between 35 μm and 45 μm . Preferably, said wrapping materials 30, 31, 32 are a non-porous, for instance having a permeability of less than 100 Coresta units, for instance
20 less than 50 Coresta units. However, in other embodiments, said wrapping materials 30, 31, 32 can be porous, for instance having a permeability of greater than 200 Coresta Units. Preferably, the length of the filter section 27 is less than about 20 mm. In the present example, the length of the filter section 27 is 16 mm.

In some embodiments, the filter section 27 comprises a body formed from filamentary
25 tow. In the present example, the tow used in the body has a denier per filament (d.p.f.) of 8.4 and a total denier of 21,000. Alternatively, the tow can, for instance, have a denier per filament (d.p.f.) of 9.5 and a total denier of 12,000. In the present example, the tow comprises plasticised cellulose acetate tow. The plasticiser used in the tow comprises about 7% by weight of the tow. In the present example, the plasticiser is
30 triacetin. In other examples, different materials can be used to form the body. For instance, rather than tow, the body of the filter section 27 can be formed from paper, for instance in a similar way to paper filters known for use in cigarettes. Alternatively, the body can be formed from tows other than cellulose acetate, for instance polylactic acid (PLA), other materials described herein for filamentary tow or similar materials.

The tow is preferably formed from cellulose acetate. The tow, whether formed from cellulose acetate or other materials, preferably has a d.p.f. of at least 5, more preferably at least 6 and still more preferably at least 7. These values of denier per filament provide a tow which has relatively coarse, thick fibres with a lower surface area which result in a lower pressure drop across the filter section 6 than tows having lower d.p.f. values. Preferably, to achieve a sufficiently uniform body, the tow has a denier per filament of no more than 12 d.p.f., preferably no more than 11 d.p.f. and still more preferably no more than 10 d.p.f.

The total denier of the tow forming the body of the filter section 27 is preferably at most 30,000, more preferably at most 28,000 and still more preferably at most 25,000. These values of total denier provide a tow which takes up a reduced proportion of the cross sectional area of the filter section 27 which results in a lower pressure drop across the filter section 27 than tows having higher total denier values. For appropriate firmness of the filter section 27, the tow preferably has a total denier of at least 8,000 and more preferably at least 10,000. Preferably, the denier per filament is between 5 and 12 while the total denier is between 10,000 and 25,000. More preferably, the denier per filament is between 6 and 10 while the total denier is between 11,000 and 22,000. Preferably the cross-sectional shape of the filaments of tow are 'Y' shaped, although in other embodiments other shapes such as 'X' shaped filaments can be used, with the same d.p.f. and total denier values as provided herein.

The cross section of the filaments of tow may have an isoperimetric ratio L^2/A of 25 or less, 20 or less, or 15 or less, where L is the length of the perimeter of the cross section and A is the area of the cross section. Such filaments of tow have a relatively low surface area for a given value of denier per filament, which improves delivery of aerosol to the consumer. In some examples, the body may comprise an adsorbent material (e.g. charcoal) dispersed within the tow.

In some examples, the body of the filter section 27 may comprise a capsule. The capsule can comprise a breakable capsule, for instance a capsule which has a solid, frangible shell surrounding a liquid payload. In some examples, a single capsule is used. The capsule is entirely embedded within the body of the filter section 27. In other words, the capsule is completely surrounded by the material forming the body. In other examples, a plurality of breakable capsules may be disposed within the body of the filter section 27, for instance 2, 3 or more breakable capsules. The length of the body of the filter section 27 can be increased to accommodate the number of capsules

required. In examples where a plurality of capsules is used, the individual capsules may be the same as each other, or may differ from one another in terms of size and/or capsule payload. In other examples, multiple bodies of material may be provided, with each body containing one or more capsules.

- 5 The capsule has a core-shell structure. In other words, the capsule comprises a shell encapsulating a liquid agent, for instance a flavourant or other agent, which can be any one of the flavourants or aerosol modifying agents described herein. The shell of the capsule can be ruptured by a user to release the flavourant or other agent into the body of the filter section 27. The filter section plug wrap 32 can comprise a barrier coating to
10 make the plug wrap 32 substantially impermeable to the liquid payload of the capsule. Alternatively or in addition, the plug wrap 32 can comprise a barrier coating to make the plug wrap 32 substantially impermeable to the liquid payload of the capsule.

- In some examples, the capsule is spherical and has a diameter of about 3 mm. In other examples, other shapes and sizes of capsule can be used. The total weight of the
15 capsule may be in the range about 10 mg to about 50 mg.

- It is known to generate, for a given tow specification (such as 8.4Y21000), a tow capability curve which represents the pressure drop through a length of rod formed using the tow, for each of a range of tow weights. Parameters such as the rod length and circumference, wrapper thickness and tow plasticiser level are specified, and these
20 are combined with the tow specification to generate the tow capability curve, which gives an indication of the pressure drop which would be provided by different tow weights between the minimum and maximum weights achievable using standard filter rod forming machinery. Such tow capability curves can be calculated, for instance, using software available from tow suppliers. It has been found that it is particularly
25 advantageous to use a body for a filter section 27 which includes filamentary tow having a weight per mm of length of the body which is between about 10% and about 30% of the range between the minimum and maximum weights of a tow capability curve generated for the filamentary tow. This can provide an acceptable balance between providing enough tow weight to avoid shrinkage after the body has been formed,
30 providing an acceptable pressure drop, while also assisting with capsule placement within the tow, for capsules of the sizes described herein.

In some embodiments, the filter section 27 may further comprise a hollow tubular element that extends from the mouth end 12 and is attached to the filter section by the plug wrap 32. The hollow tubular element may advantageously have a length of greater

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than about 10mm, for instance between about 10mm and about 30mm or between about 12mm and about 25mm. It has been found that a consumer's lips are likely to extend in some cases to about 12mm from the mouth end 12 of the consumable 70 when drawing aerosol through the consumable 70 and therefore a hollow tubular
5 element having a length of at least 10mm or at least 12mm means that most of the consumer's lips surround this element.

In some embodiments, there is provided a method of making an article for insertion into an aerosol provision device comprising: providing a heat expandable material; and positioning a layer outwardly of said heat expandable material.

10

In some embodiments, there is provided a method of making an article for insertion into an aerosol provision device, comprising: providing a frangible reservoir containing a liquid; and forming an article configured for insertion into an aerosol provision device comprising said frangible reservoir.

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In some embodiments, there is provided a method of making an article for insertion into an aerosol provision device, comprising: providing an aerosol generating material; providing a section configured to swell when wetted; and combining said section configured to swell when wetted with said section of aerosol generating material.

Claims

1. An article for insertion into an aerosol provision device, the article comprising a frangible reservoir containing a liquid that, when broken, causes said liquid to wet an
5 external surface of the article and/or causes said article to swell.
2. An article according to claim 1, wherein the frangible reservoir extends centrally along a longitudinal axis of the article.
- 10 3. An article according to claim 2, wherein the frangible reservoir comprises a snap strength of 1N to 20N.
4. An article according to claim 1, wherein the frangible reservoir comprises a capsule.
15 5. An article according to any preceding claim, wherein the frangible reservoir is configured to break in response to being heated.
6. An article according to any preceding claim further comprising a layer of
20 absorbent and/or wicking material disposed around the frangible reservoir.
7. An article according to claim 6, wherein said layer of absorbent and/or wicking material comprises fibres selected from any of: cellulose acetate, paper, cotton, viscose, nylon, polypropylene or polyester; or wherein said layer of absorbent and/or wicking
25 material comprises a polyurethane laminate.
8. An article according to claim 6 or claim 7, wherein said layer of absorbent and/or wicking material is rod shaped.
- 30 9. An article according to claim 7 or claim 8, wherein the layer of absorbent and/or wicking material is wrapped in a wrapper.
10. An article according to claim 9, wherein the wrapper is porous.
11. An article according to claim 9 or claim 10, wherein the wrapper comprises an
35 abrasive outer surface.

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12. An article according to claim 11, wherein the abrasive surface comprises at least one protrusion.
13. An article according to claim 12, wherein the abrasive outer surface is
5 corrugated.
14. An article according to any of claims 11 to 13, wherein the abrasive surface is embossed into the wrapper.
- 10 15. An article according to any of claims 11 to 13, wherein the abrasive surface comprises abrasive particles embedded in and/or adhered to the wrapper.
16. An article according to any of claim 15, wherein the abrasive particles comprise fibres.
15
17. An article according to claim 16, wherein the fibres comprise bristles extending in a direction perpendicular to a longitudinal axis of the article.
18. An article according to any preceding claim, wherein the frangible liquid
20 reservoir comprises a minimum volume of 1ml.
19. An article according to any preceding claim, wherein the liquid comprises at least one of isopropyl alcohol, iodine or water.
- 25 20. An article according to any preceding claim, wherein the article is free of aerosol generating material.
21. A system comprising an aerosol provision device and an article according to any of claims 1 to 20, the aerosol provision device comprising a heating assembly
30 having a wall that at least partially defines a chamber for receiving a consumable of the aerosol provision device, said wall being configured to heat a consumable received within said chamber during use.
22. A consumable for insertion into an aerosol provision device, the aerosol
35 provision device comprising a heating assembly having a wall that at least partially defines a chamber for receiving said consumable for heating during use of the device,

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wherein heating said consumable causes condensate to form and be deposited on said wall, the consumable comprising an aerosol generating material and a section configured to swell when wetted by condensate generated during use of the consumable, so that, when said consumable is heated, said section swells into contact
5 with said wall of said chamber to remove said condensate from said wall by abrasion with said wall.

23. A consumable according to claim 22, wherein the consumable comprises a mouth end and a distal end, wherein the mouth end is configured to protrude from an aerosol provision device and the distal end is configured to be inserted furthest into a
10 chamber of an aerosol provision device, the distal end comprising the said section configured to swell when wetted by condensate.

24. A consumable according to claim 23, wherein said section comprises [material preferred for swelling].
15

25. A consumable according any of claims 22 to 24, wherein the aerosol generating material and said section are at least partially wrapped by a wrapper.

20 26. A consumable according to claim 25, wherein the wrapper comprises an abrasive outer surface and wherein said abrasive outer surface is disposed overlying said section.

27. A consumable according to claim 26, wherein the abrasive surface comprises at
25 least one protrusion.

28. A consumable according to claim 27, wherein the abrasive outer surface is corrugated.

30 29. A consumable according to any of claims 26 to 28, wherein the abrasive surface is embossed into the wrapper.

30. A consumable according to any of claims 26 to 28, wherein the abrasive surface comprises abrasive particles embedded in and/or adhered to the wrapper.

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31. A consumable according to claim 30, wherein the abrasive particles comprise fibres.

5 32. An article according to claim 31, wherein the fibres comprise bristles extending in a direction perpendicular to a longitudinal axis of the article.

33. A system comprising an aerosol provision device and a consumable according to any of claims 22 to 32, the aerosol provision device comprising a heating assembly having a wall that at least partially defines a chamber for receiving a consumable of the aerosol provision device, said wall being configured to heat a consumable received
10 within said chamber during use.

34. A pack comprising an article according to any of claims 1 to 20 and at least one consumable comprising aerosol generating material.

15

35. A pack comprising one or more consumables according to any of claims 22 to 31.

36. A method of forming an article according to any of claims 1 to 20 comprising:
20 providing a frangible reservoir containing a liquid; and forming an article configured for insertion in to an aerosol provision device comprising said frangible reservoir.

37. A method of forming a consumable according to any of claims 22 to 31
25 comprising:

providing an aerosol generating material;
providing a section configured to swell when wetted; and
combining said section configured to swell when wetted with said section of aerosol generating material.

30

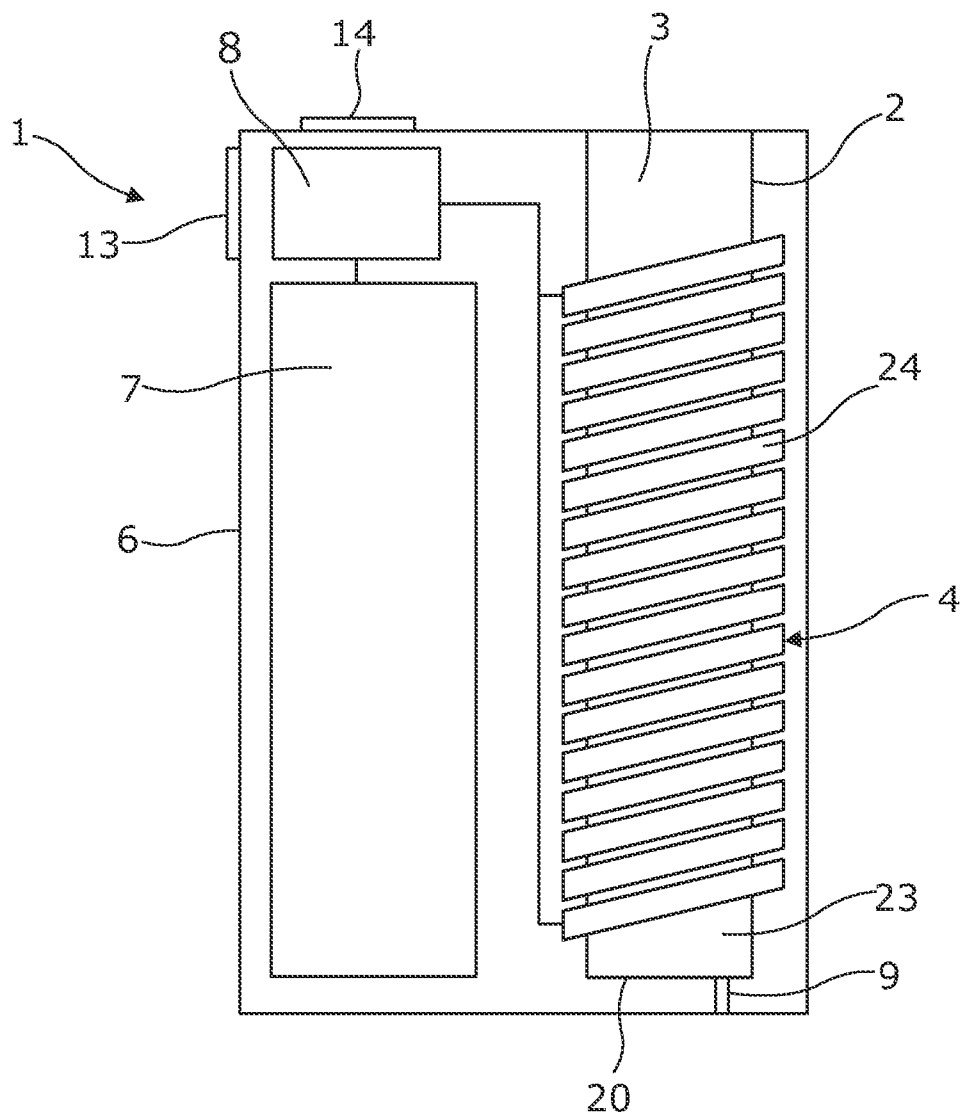


Fig. 1

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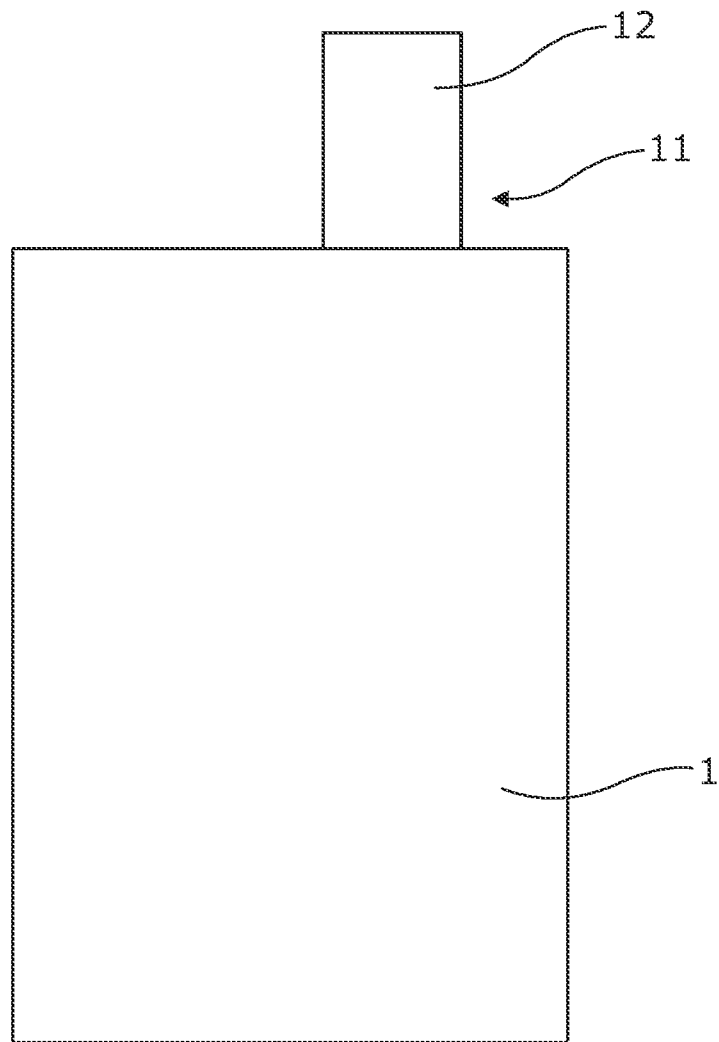


Fig. 2

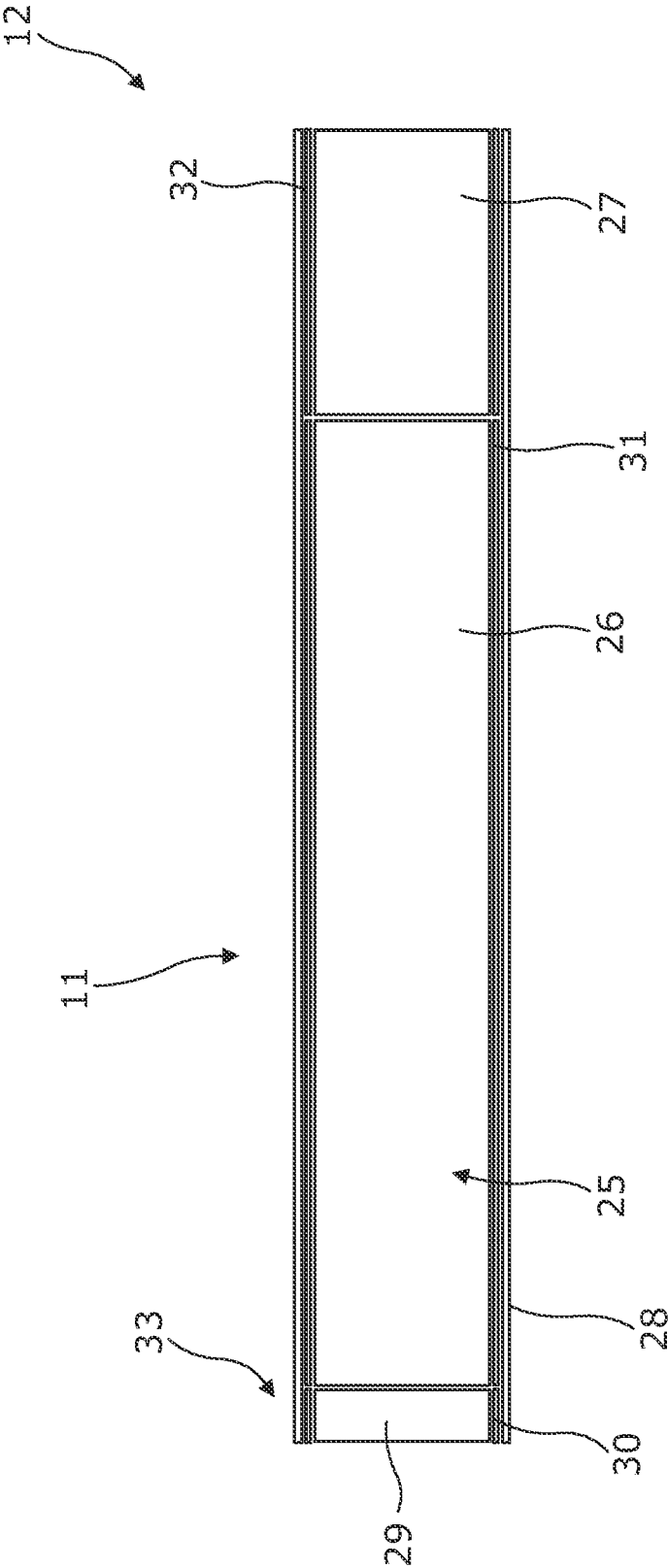


Fig. 3

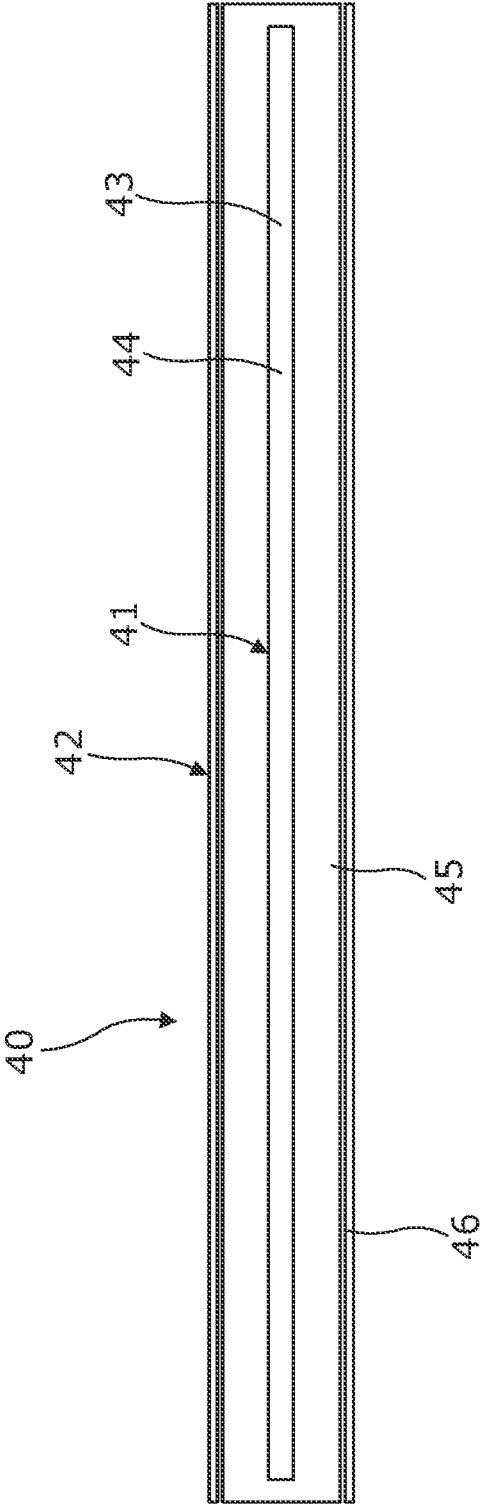


Fig. 4

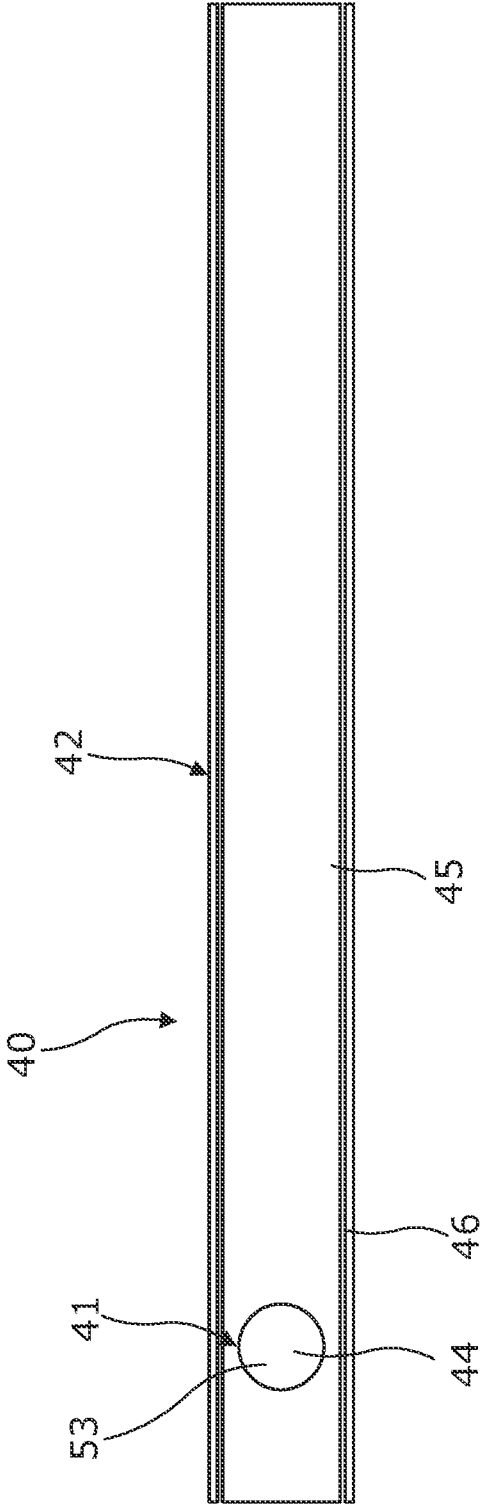


Fig. 5

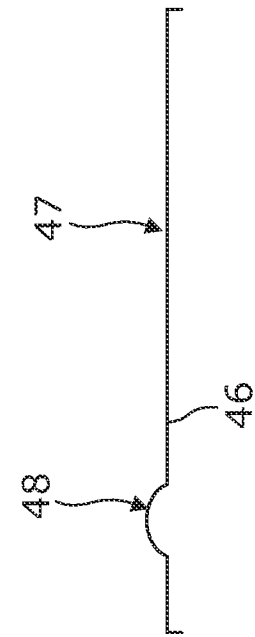


Fig. 6a

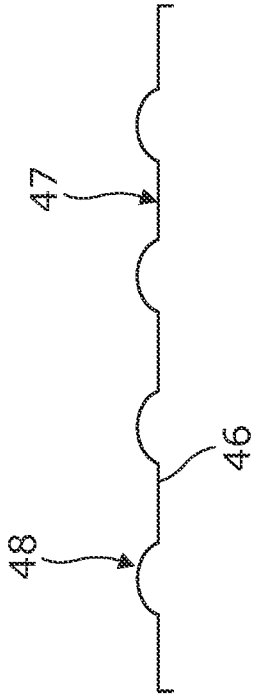


Fig. 6b

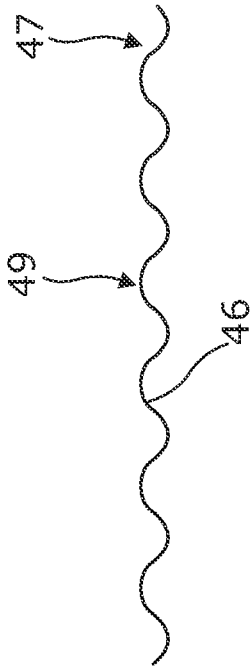


Fig. 6c

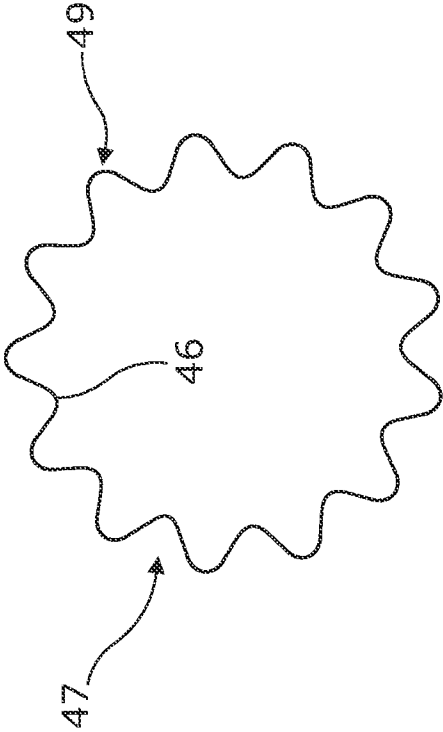


Fig. 6d

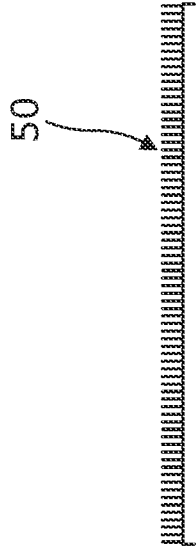


Fig. 6e

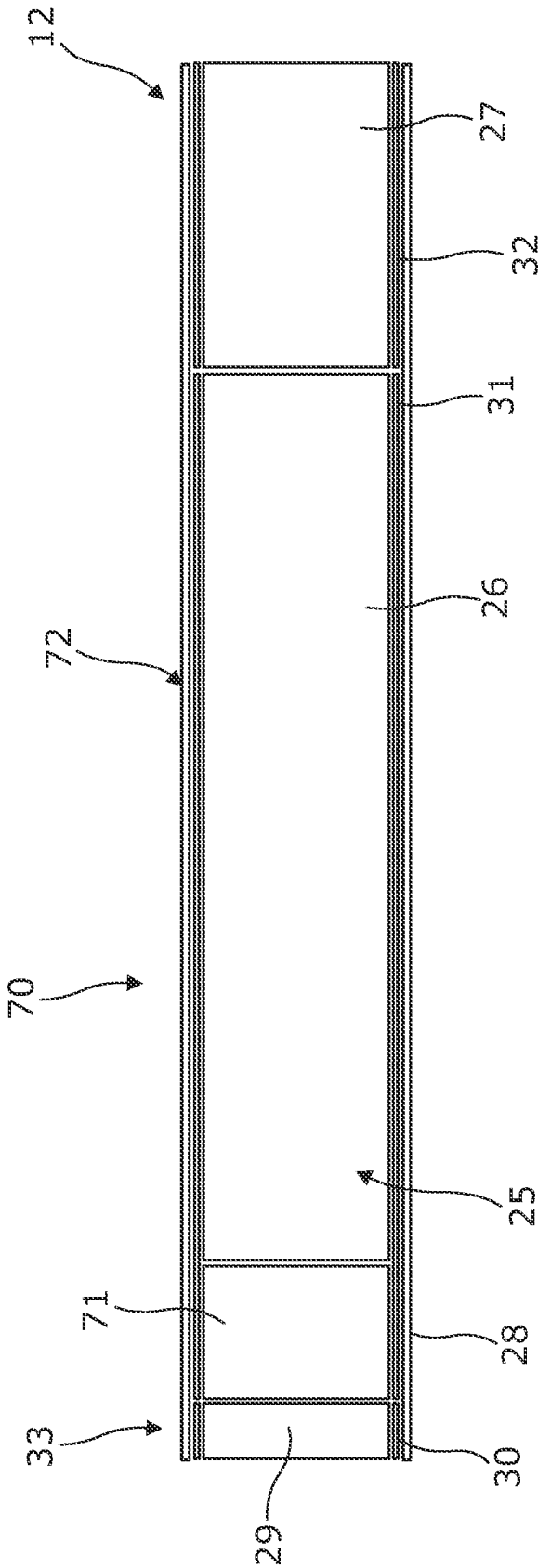


Fig. 7

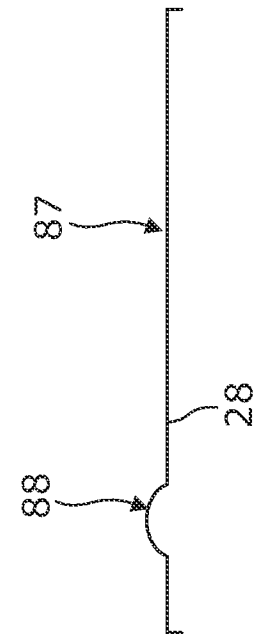


Fig. 8a

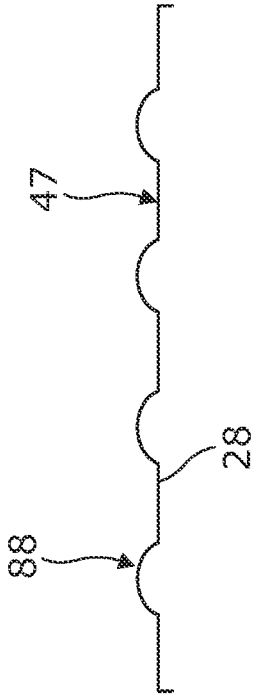


Fig. 8b

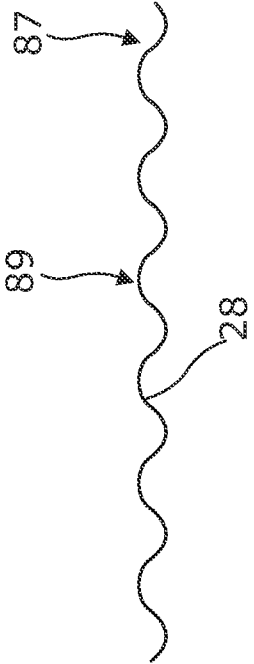


Fig. 8c

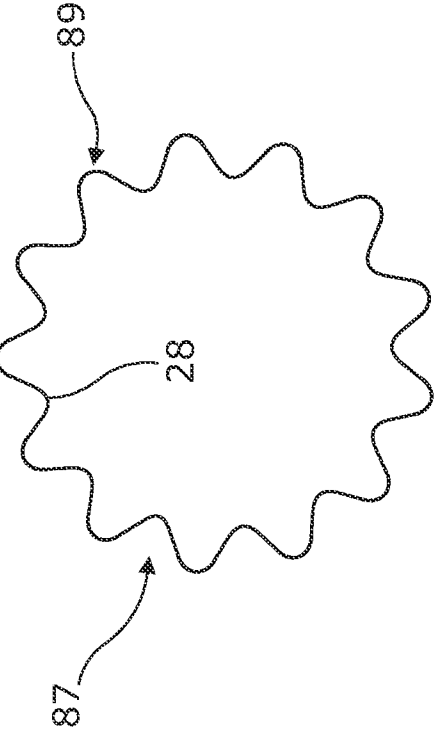


Fig. 8d

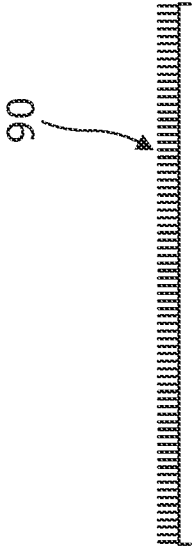


Fig. 8e