



(51) International Patent Classification:

B65D 81/32 (2006.01) A61M 35/00 (2006.01)

(21) International Application Number:

PCT/EP2020/062822

(22) International Filing Date:

08 May 2020 (08.05.2020)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

19183160.1 28 June 2019 (28.06.2019) EP

(71) Applicant: PHILIP MORRIS PRODUCTS S.A.

[CH/CH]; Quai Jeanrenaud 3, 2000 Neuchâtel (CH).

(72) Inventor: BOLOGNA, Matteo; Avenue de Rhodanie 50,

1007 Lausanne (CH).

(74) Agent: SIEPMANN, Felix et al.; Abitz & Partner Paten-

tanwälle mbB, Arabellastr. 17, 81925 München (DE).

(81) Designated States (unless otherwise indicated, for every

kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every

kind of regional protection available): ARIPO (BW, GH,

GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to the identity of the inventor (Rule 4.17(i))
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

Published:

- with international search report (Art. 21(3))

(54) Title: PACK COMPRISING A CLEANING TOOL FOR AN AEROSOL-GENERATING DEVICE

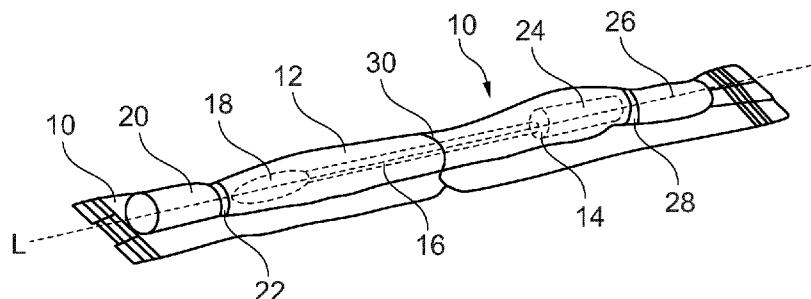


Fig. 1

(57) Abstract: The invention relates to a pack (10) for a cleaning tool (14) of an aerosol-generating device. The pack comprises a first compartment (12) containing an elongated stick (16) having at least one end provided with liquid-absorbent material, such as cotton, as a cleaning head (18). The pack further comprises a second sealed compartment (20) comprising a cleaning liquid. A wall of the second compartment comprises a collapsible portion (22).



-1-

PACK COMPRISING A CLEANING TOOL FOR AN AEROSOL-GENERATING
DEVICE

The present invention relates to a pack for a cleaning tool for an aerosol-generating device.

5 It is known to provide a cleaning tool for an aerosol-generating device. The cleaning tool typically comprises an elongated stick for gripping the cleaning tool by a user. On one end of the cleaning tool, a cleaning head made from a cotton bud is provided. The cotton bud is soaked in a cleaning liquid. The cleaning tool is normally housed in a pack before being used by a user. The pack may comprise aluminum foil to protect the cleaning tool and to prevent
10 evaporation of the cleaning liquid. Since the elongated stick of the cleaning tool is in direct contact with the cotton bud and the cleaning liquid, the elongated stick is typically made of plastic. However, alternative materials for the elongated stick such as cardboard do not resist very well to the cleaning liquid and thus the shelf-life of the cleaning tool may deteriorate with time, when the cotton bud is soaked in the cleaning liquid. Moreover, the absorption of the
15 cleaning liquid by the cleaning stick will decrease the amount of the liquid in the cotton bud and the quality of the cleaning tool is deteriorated over time. Consequently, the cleaning efficiency will be adversely affected.

The objective of the present invention is to provide an improved cleaning tool which obviates these disadvantages.

20 According to an embodiment of the invention there is provided a pack for a cleaning tool of an aerosol-generating device. The pack comprises a first compartment containing an elongated stick having at least one end provided with liquid-absorbent material, such as cotton, as a cleaning head. The pack further comprises a second compartment comprising a cleaning liquid. A wall of the second compartment may comprise a collapsible portion. The second
25 compartment may be arranged adjacent to one end of the first compartment. A collapsible portion may be arranged between the first compartment and the second compartment so that the first compartment and the second compartment are fluidly connected when the collapsible portion is ruptured.

According to the present invention, the elongated stick is separated from the cleaning
30 liquid. The elongated stick is arranged in the first compartment while the cleaning liquid is arranged in the second compartment. The collapsible portion may be arranged between the first compartment and the second compartment to separate the cleaning tool from the cleaning liquid. The cleaning stick contacts the cleaning liquid only upon use. As a consequence, it is not necessary that the elongated stick is resistant to absorbing liquid, and the stick can be
35 made from natural materials other than plastic such as pressed paper or wood, preferably

-2-

bamboo wood. The cleaning tool housed by the pack can thus be biodegradable and more environmentally friendly.

Furthermore, the shelf life of the cleaning tool can be increased by the pack, since the cleaning tool is arranged separate from the cleaning liquid. The cleaning stick contacts the cleaning liquid only upon use. Before usage, the cleaning liquid does not come into contact with the cleaning tool. The issue of deterioration over time is thus avoided.

The pack according to the present invention is provided for the cleaning tool and the cleaning liquid. The pack may house the cleaning tool. The pack may house the cleaning liquid. The pack may house the cleaning tool and the cleaning liquid. The pack may hermetically seal the cleaning tool. The pack may hermetically seal the cleaning tool before usage. The pack may hermetically seal the cleaning liquid. The pack may hermetically seal the cleaning liquid before usage. The first compartment may house the cleaning tool. The first compartment may hermetically seal the cleaning tool. The first compartment may hermetically seal the cleaning tool before usage. The second compartment may house the cleaning liquid. The second compartment may hermetically seal the cleaning liquid. The second compartment may hermetically seal the cleaning liquid before usage.

The cleaning tool may comprise the elongated stick. The cleaning tool may comprise liquid-absorbent material. The liquid-absorbent material may form the cleaning head of the cleaning tool. The cleaning tool may comprise the elongated stick and the cleaning head. The cleaning head may be arranged at one end of the elongated stick. The cleaning tool may be arranged in the first compartment such that the cleaning head is arranged adjacent to the collapsible portion. The cleaning tool may be arranged in the first compartment such that the cleaning head is arranged distanced from the collapsible portion.

The collapsible portion may be weakened. The collapsible portion may be weakened in comparison to an outer wall of the pack. The collapsible portion may be weakened to a degree such that a user can collapse the collapsible portion by pushing the cleaning head of the cleaning tool against the collapsible portion. The collapsible portion may comprise a weakened region. The weakened region may be configured as a region that collapses or ruptures when pressure is applied to the weakened region. Pressure may be applied to the weakened region when the cleaning head is pushed against the weakened region. Pressure may alternatively be applied by a user compressing the second compartment such that the cleaning liquid contained in the second compartment is pressurized and pushes against the collapsible portion. The pressure may be applied by the user by squeezing the second compartment.

The collapsible portion may comprise a material of low strength. The material of the collapsible portion may be configured to rupture. The material of the collapsible portion may

be a foil. The material of the collapsible portion may have low tear strength. The material of the collapsible portion may have a reduced thickness, preferably in comparison to the material of one or both of the first compartment and the second compartment. The material of the collapsible portion may be thin, preferably in comparison to the material of one or both of the first compartment and the second compartment.

The collapsible portion may be weakened during manufacture. The collapsible portion may comprise a weld or a weld seam. The weld may be a thermal weld. Initially, the first and second compartments may be provided as a single compartment. Opposite walls of this initial single compartment may be attached to each other by welding. The resulting weld may create the different first and second compartments. The resulting weld may constitute the collapsible portion between the first compartment and the second compartment. The strength of the weld may be chosen appropriately such that the user may rupture the weld by applying pressure to the weld. When the weld is ruptured, the cleaning tool may be pushed from the first compartment into the second compartment. The strength of the weld may be determined appropriately by the welding technique. The strength of the weld may be chosen by an appropriate welding width. The strength of the weld may be chosen by an appropriate welding temperature.

The collapsible portion may comprise a weakening line. The weakening line may be configured to weaken the collapsible portion. The collapsible portion may be pre-cut. The collapsible portion may be a pre-cut wall. The pre-cut preferably does not compromise the sealing properties of the collapsible portion. The pre-cut may be provided on one layer of a multilayer material. The collapsible portion may comprise the multilayer material. The multilayer material may be a multilayer laminated packaging material.

The collapsible portion may be configured to rupture, break or be penetrable or pierceable when the collapsible portion is pressured, for example, when the cleaning head is pushed against the collapsible portion.

The collapsible portion is configured fluid impermeable before being collapsed. Before use, the first compartment and the second compartment are not fluidly connected. After the collapse of the collapsible portion, the first compartment and the second compartment may be fluidly connected.

The cleaning head may comprise any kind of material that is suitable for cleaning. Preferably, the cleaning head comprises material that can absorb cleaning liquid. The cleaning head may comprise fibrous or porous material. The cleaning head may comprise preferably cotton. The cleaning head may be a cotton bud.

The first compartment and second compartment may be separated by a common wall. The collapsible portion is preferably arranged in the common wall.

The second compartment may be arranged adjacent to the first compartment. Preferably, the second compartment is only separated from the first compartment by the common wall comprising the collapsible portion. The common wall may be configured as a foil. The foil has a structural stability such that a user can break the foil when pushing the cleaning head of the cleaning tool against the foil. The foil may be configured as the collapsible portion. The foil is configured to be fluid impermeable.

Alternatively, more than one wall is arranged between the first compartment and the second compartment. Each wall may comprise a collapsible portion. A bridging layer may be provided between the second compartment and the first compartment. The bridging layer may be configured to prevent leakage of the cleaning liquid between the first compartment and a second compartment, when one or more collapsible portions have been collapsed. The bridging layer may be arranged surrounding the walls between the first compartment and the second compartment to prevent leakage of the cleaning liquid between the first compartment and the second compartment.

The said both compartments may be arranged on the same longitudinal axis of the pack so that the cleaning head, when pushed along the longitudinal axis, penetrates the collapsible portion and touches the cleaning liquid in the second compartment.

Instead of the cleaning head being used for rupturing of the collapsible portion, the collapsible portion may be ruptured when pressed by the cleaning liquid of the second compartment. According to this embodiment, a user may squeeze the second compartment such that the collapsible portion ruptures by the pressure applied by the user and subsequently the pressure applied by the cleaning liquid onto the collapsible portion. The second compartment may be made from an elastic material such that squeezing of the second compartment leads to an increased pressure inside of the second compartment.

A user may grip the elongated stick of the cleaning tool and push the cleaning tool along the longitudinal axis of the pack. The longitudinal axis of the pack may be identical to the longitudinal axis of the cleaning tool. The cleaning head of the cleaning tool may then be pushed against the collapsible portion. After rupturing of the collapsible portion, the cleaning head may penetrate into the second compartment. In the second compartment, the cleaning liquid may come into contact with the cleaning head. The cleaning liquid may be soaked in the cleaning head. The user may then remove the cleaning tool from the pack and use the cleaning tool to clean an aerosol-generating device.

For cleaning the aerosol-generating device, the cleaning tool may be inserted into a cavity of the aerosol-generating device. Preferably, the cavity is configured as a heating chamber. The cleaning tool is configured to remove residues from the heating chamber after usage of the aerosol-generating device. In this regard, an aerosol-generating article

comprising aerosol-forming substrate may be inserted into the heating chamber of the aerosol-generating device. After the aerosol-forming substrate in the aerosol-generating article is used, the aerosol-generating article has to be replaced. For replacing the aerosol-generating article, the aerosol-generating article is removed by the user from the heating chamber. Before a new aerosol-generating article is inserted into the heating chamber, the user may want to clean the heating chamber. The cleaning tool may be optimized for cleaning the heating chamber. In this regard, the user may grip the elongated stick of the cleaning tool and insert the cleaning head containing the cleaning liquid into the heating chamber. The inner wall and the base of the heating chamber may be cleaned by the cleaning head of the cleaning tool. Additionally, a heating element, preferably a heating pin or heating blade, may be provided in the heating chamber. The heating element may also be cleaned by the cleaning head of the cleaning tool.

The aerosol-generating device described above is an exemplary device, which may be cleaned with the cleaning tool of the pack described herein. The pack and the cleaning tool are not limited to the cleaning of aerosol-generating devices. The pack and the cleaning tool may be configured for cleaning different devices, such as devices used in medical applications.

Alternatively, the second compartment may overlie at least part of one end of the first compartment. The cleaning head, when pushed in an angular direction relative to the longitudinal axis of the pack, may penetrate the collapsible portion and touch the cleaning liquid in the second compartment.

As used herein, the term 'end' describes the region at the end of the respective component. In this embodiment, the first compartment and the second compartment are preferably not aligned along the longitudinal axis of the pack. Rather, the first compartment and the second compartment may be arranged next to each other. The first compartment and a second compartment may be arranged next to each other in a direction perpendicular to the longitudinal axis of the pack. Consequently, the first compartment and the second compartment may be arranged adjacent in a radial direction. In this embodiment, the collapsible portion may be configured to interpose between the first and second compartments. In other words, the first compartment may be arranged above the second compartment or below the second compartment. The first compartment may be arranged on the longitudinal axis of the pack and the second compartment may be arranged parallel to the longitudinal axis of the pack. Or the second compartment may be arranged on the longitudinal axis of the pack and the first compartment may be arranged parallel to the longitudinal axis of the pack. Alternatively, both the first and second compartments may be arranged parallel to the longitudinal axis of the pack. The arrangement of the first and second compartments according to this embodiment is encompassed by the term 'overlie', particularly that the second compartment at least partly overlies the end of the first compartment.

The second compartment may be arranged adjacent to the first compartment such that the cleaning head of the cleaning tool in the first compartment is arranged adjacent to the second compartment. In this embodiment, the collapsible portion is preferably arranged between the first compartment and a second compartment. The collapsible portion is preferably arranged adjacent the cleaning head of the cleaning tool. The collapsible portion is preferably arranged at a side wall of the first compartment. The wall between the first compartment and the second compartment is preferably a common wall. Consequently, the sidewall of the first compartment is preferably at the same time a side wall of the second compartment. Alternatively, the first and second compartments may comprise separate sidewalls. In this case, each side wall may comprise a collapsible portion. Optionally, the sidewall of the first compartment may be weakened, preferably perforated, since the first compartment does not need to be hermetically sealed. Preferably, only the second compartment, which comprises the cleaning liquid, is hermetically sealed before usage. The weakening of the common wall or of the separate sidewalls may facilitate penetration of the cleaning head of the cleaning tool into the second compartment.

An angular direction may denote a direction essentially perpendicular to the longitudinal axis of the pack. If a user pushes the cleaning head in the angular direction, the cleaning head may rupture the collapsible portion and penetrate into the second compartment. This embodiment is similar to the embodiment described initially apart from the fact that the compartments are not arranged along the longitudinal axis but next to each other seen in a lateral direction. The lateral direction may also be denoted as radial direction. In this embodiment, the second compartment is preferably arranged adjacent to one end of the first compartment. This end of the first compartment is preferably where the cleaning head is arranged.

Alternatively to the cleaning head penetrating the collapsible portion in an angular direction, the collapsible portion may be ruptured when the collapsible portion is pressed by the cleaning liquid. In this embodiment, a user may squeeze the second compartment. Exemplarily, the user may hold the end of the first compartment and the second compartment between the fingers. Squeezing the second compartment leads to an increased pressure inside of the second compartment. Therefore, pressure of the cleaning liquid in the second compartment is increased. The cleaning liquid is then pressed against the collapsible portion to rupture the collapsible portion. The cleaning liquid may then flow into the first compartment and be soaked into the cleaning head.

The first compartment and the second compartment may be located laterally next to each other and may be connected via a foldable link so that the second compartment may be folded to overlie at least part of one end of the first compartment. The cleaning head, when

pushed in an angular direction relative to the longitudinal axis of the pack, may penetrate the collapsible portion and touch the cleaning liquid in the second compartment.

In this embodiment, the second compartment may be folded to come into an adjacent arrangement next to the first compartment. Before folding, the second compartment may be arranged distanced from the first compartment and is connected to the first compartment via a foldable link. After folding, the first compartment and the second compartment may be arranged adjacent to each other as described in the previous embodiment wherein the second compartment overlies at least part of one end of the first compartment with a collapsible portion configured to interpose between the first compartment and the second compartment. After folding, the cleaning head may be pushed towards the second compartment so that the collapsible portion between the first compartment and the second compartment collapses and the cleaning head reaches into the second compartment. In this embodiment, the first compartment and the second compartment preferably comprise separate walls. In the separate walls, separate collapsible portions may be arranged. The collapsible portion of the first compartment may preferably be configured as perforations of the wall. The collapsible portion in the second compartment may preferably be configured as a weakened region.

The pack may further comprise a third compartment containing a cleaning liquid. The third compartment may be arranged adjacent to the other end of the first compartment, wherein the first compartment is arranged between the second compartment and the third compartment. A further collapsible portion may be arranged between the first compartment and the third compartment. So that the cleaning head when pushed through the collapsible portion, touches the cleaning liquid in the third compartment.

Alternatively or in addition, the cleaning tool comprises two cleaning heads. The cleaning heads are preferably arranged opposite each other on opposite ends of the elongated stick. The second cleaning head may be configured similar to the first cleaning head. Consequently, the second cleaning head preferably comprises a liquid absorbing material such as a cotton bud.

The third compartment may be configured similar to the second compartment. Consequently, the above description of the second compartment applies to the third compartment. Having a pack with two compartments (second and third compartments) containing cleaning liquids and a compartment (first compartment) comprising a cleaning tool with two cleaning heads confers increased functionality of the cleaning tool. In the first compartment, the cleaning tool with the two cleaning heads may be arranged. In the second compartment, a first cleaning liquid may be provided. In the third compartment, a second cleaning liquid may be provided. The first cleaning liquid may be different from the second cleaning liquid. Different cleaning liquids may facilitate different cleaning properties. The

different cleaning liquids may be adapted for different applications such as for different elements of an aerosol-generating device. The first cleaning liquid may alternatively be similar or the same as the second cleaning liquid.

5 A user may initially push the first cleaning head from the first compartment into the second compartment so that the cleaning liquid in the second compartment gets soaked into the first cleaning head. With this first cleaning head, a user may clean the heating chamber of an aerosol-generating device. After this operation, the user has different choices. A choice is that the cleaning operation is already sufficient, so the second cleaning head of the cleaning tool and the cleaning liquid contained in the third compartment can be saved for a future
10 cleaning operation. Alternatively, a user may use the fresh second cleaning head together with the second cleaning liquid to improve the cleaning of the heating chamber of the aerosol-generating device. For this purpose, the user may push the second cleaning head of the cleaning tool through the collapsible portion arranged between the first compartment and the third compartment into the third compartment. The second cleaning liquid will then be soaked
15 into the second cleaning head. The second cleaning head could then be used to clean the heating chamber of the aerosol-generating device. In this scenario, the first cleaning liquid could be configured as an initial cleaning liquid for a first cleaning operation. The second cleaning liquid together with the second cleaning head could be configured for a subsequent cleaning operation, for example a final cleaning operation. The second cleaning liquid may be
20 configured as a finishing liquid. The finishing liquid may be configured to make a cleaned surface oilier to be less sticky to unwanted residues from following usages.

A further option of operation would be that the user can decide to use the second cleaning head, after a first cleaning operation utilizing the first cleaning head soaked with the first cleaning liquid, without the second cleaning liquid. In this case, the user may utilize the
25 fact that the second cleaning head is still dry. The dry second cleaning head may be used to dry the heating chamber of the aerosol-generating device. In this regard, it is conceivable that a cleaning tool with two cleaning heads is provided in the first compartment while only a second compartment containing a cleaning liquid is provided and no third compartment containing a cleaning liquid is provided. Generally, with a cleaning tool comprising two cleaning heads and
30 two compartments each comprising cleaning liquid, a user may use one or two cleaning heads in combination with any of the cleaning liquids or without a cleaning liquid.

The first compartment and the third compartment may be separated by a common wall. This arrangement is similar to the above-described configuration between the first compartment and the second compartment. The common wall may comprise the second
35 collapsible portion. The first collapsible portion may be arranged between the first compartment and the second compartment. The second collapsible portion may be arranged between the

first compartment and the third compartment. The second collapsible portion may be configured like the first collapsible portion. The first compartment is preferably arranged between the second compartment and the third compartment. The cleaning tool comprising two opposite cleaning heads is preferably arranged such that the first cleaning head is associated with the second compartment and the second cleaning head is associated with the third compartment.

The first compartment and the third compartment may be located on the same longitudinal axis of the pack so that the second cleaning head, when pushed along the longitudinal axis, penetrates the further collapsible portion and touches the cleaning liquid in the third compartment. The first compartment, the second compartment and the third compartment may all be located on the same longitudinal axis of the pack.

The third compartment may overlie at least part of the second end of the first compartment. The second cleaning head, when pushed in an angular direction relative to the longitudinal axis of the pack, may penetrate the further collapsible portion and touch the cleaning liquid in the third compartment.

This embodiment is again similar with the above-described embodiments, in which the second compartment overlies a part of the first end of the first compartment. The third compartment, in this embodiment, preferably overlies at least part of the second end of the first compartment. The second end of the first compartment is preferably arranged opposite the first end of the first compartment. The first end of the first compartment is preferably arranged adjacent to the second compartment and the second end of the first compartment is preferably arranged adjacent to the third compartment. In other words, in this embodiment the second compartment is preferably arranged adjacent to the first end of the first compartment and the third compartment is preferably arranged adjacent to the second end of the first compartment. Consequently, a compartment containing cleaning liquid is arranged at each end of the first compartment. These compartments correspond to the cleaning heads of the cleaning tool arranged in the first compartment. In each of these compartments (second compartment and third compartment), the respective cleaning head can be pushed in an angular direction relative to the longitudinal axis of the pack so that the respective collapsible portion collapses and the cleaning head comes into contact with the cleaning liquid in the respective compartment.

The third compartment may be located laterally next to the second end of the first compartment and connected via a foldable link so that the third compartment may be folded to overlie at least part of the second end of the first compartment. The second cleaning head, when pushed in an angular direction relative to the longitudinal axis of the pack, may penetrate the further collapsible portion and touch the cleaning fluid in the third compartment.

In this embodiment, similar to the corresponding above-described embodiment concerning the second compartment, the third compartment may be arranged distanced from the first compartment and is connected to the first compartment via a foldable link so that the third compartment can be folded towards the first compartment. After the folding operation, the second cleaning head can be pushed in an angular direction to rupture the second collapsible portion so that the second cleaning head reaches into the third compartment. The cleaning liquid contained in the third compartment can then soak into the second cleaning head. In this embodiment and in the above-described corresponding embodiment concerning the second compartment, the folding action may be a pivotal movement.

Alternatively to the second cleaning head being configured to penetrate the further collapsible portion, the further collapsible portion may be configured to rupture when the further collapsible portion is pressed by the cleaning liquid in the third compartment. The pressure for rupturing the further collapsible portion may be generated by a user squeezing the third compartment. Exemplarily, a user may hold the second end of the first compartment and the third compartment between the fingers to press the third compartment. This pressure will be transferred, by the second cleaning liquid, to the further collapsible portion so as to rupture the further collapsible portion. The third compartment may be made from an elastic material to enable pressuring by a user.

The collapsible portion arranged between the first compartment and the second compartment, that is the first collapsible portion, and the further collapsible portion arranged between the first compartment and the third compartment, that is the second collapsible portion, may be weakened, preferably comprise a weakened region as described herein.

The elongated stick of the cleaning tool may be made by a biodegradable natural cellulose material such as cardboard paper. The material may be pressed paper such as pressed molded recycled paper or wood.

The packaging material of the pack may be aluminum foil or laminated plastic film. The first compartment may be made from a material different from that used for forming the second and the third compartments. Since the cleaning liquid is contained in the second compartment and potentially in the further third compartment, the first compartment does not come into contact with the cleaning liquid. As a consequence, the first compartment may be made of a biodegradable natural cellulose material.

Alternatively, the first compartment, the second compartment and, if present, the third compartment may be made of the same material. In this embodiment, all compartments may be manufactured from a single material.

The first collapsible portion and, if present, the second collapsible portion, may be configured as thermal welds. A thermal weld may be a weld created by heating. During heating,

the material to be welded may at least partially melt. Exemplarily, for creating the collapsible portion in the form of a thermal weld material of one or both of the first compartment and the second compartment may be welded together. Preferably, opposite compartment walls are welded together to create the collapsible portion. The strength of the weld may be chosen
5 appropriately by one or both of the welding temperature and the welding width to create the collapsible portion.

The pack may contain a base layer. The base layer may be a flat layer. The base layer may be a resilient layer. The base layer may be a layer resilient to bending or deformation. The compartments may be arranged on top of the base layer. If the collapsible portion is
10 configured as a thermal weld, the material of the compartment may be thermally bonded to the base layer.

The first compartment may further comprise a slit-cut or a cut-out or a pre-cut portion for facilitating an easy access to the stick. The pre-cut portion may comprise a pre-cut line. This portion of the first compartment may be configured such that a user can rupture this
15 portion. The user may thus create access to the cleaning tool by rupturing this portion. The rupturing may create an access opening to the cleaning tool. Alternatively, the rupturing may result in the pack being ruptured into two parts. The first compartment may be ruptured into two parts. The two parts may have the same size. A user may remove one part to grip the elongated stick and to push the elongated stick so that the first cleaning head is pushed
20 through the first collapsible portion and subsequently penetrates into the second compartment. After a first cleaning operation, the user may use the second part of the pack by inserting the second cleaning head into the remaining first compartment. The second cleaning head may then be pushed against the second collapsible portion and into the third compartment containing the second cleaning liquid for a second cleaning operation.

In at least one of the second compartment and in the third compartment, a liquid retention material may be provided. The liquid retention material may be a porous or fibrous material. The liquid retention material may prevent leakage of the cleaning liquid contained in the respective compartment in case of accidental breakage. The liquid retention material may be a capillary material. The liquid retention material may be made from cotton. The liquid
30 retention material may be configured as a swab, lint, or gauze. The capillary material may have a fibrous or spongy structure. The capillary material preferably comprises a bundle of capillaries. For example, the capillary material may comprise a plurality of fibres or threads or other fine bore tubes. The fibres or threads may be generally aligned to convey the cleaning liquid to the cleaning head of the cleaning tool, when the cleaning head enters the respective
35 compartment. Alternatively, the capillary material may comprise sponge-like or foam-like material. The structure of the capillary material may form a plurality of small bores or tubes,

through which the liquid can be transported by capillary action. The capillary material may comprise any suitable material or combination of materials. Examples of suitable materials are a sponge or foam material, ceramic- or graphite-based materials in the form of fibres or sintered powders, foamed metal or plastics materials, a fibrous material, for example made of spun or extruded fibres, such as cellulose acetate, polyester, or bonded polyolefin, polyethylene, ethylene or polypropylene fibres, nylon fibres or ceramic. The capillary material may have any suitable capillarity and porosity so as to be used with different liquid physical properties. The liquid has physical properties, including but not limited to viscosity, surface tension, density, thermal conductivity, boiling point and vapour pressure, which allow the liquid to be transported through the capillary material by capillary action.

Any one of the first, second and third compartments may be configured as blisters.

As used herein, the term 'blister' refers to a raised area or a bulge-out structure on a surface of the pack comprising one or more of the first, second and third compartments. The blister comprises a wall enclosing the one or more compartments. A blister comprising a compartment with a cleaning liquid is also referred to as a 'liquid blister'. At least a portion of the wall of the blister may be configured flexible to allow a user to squeeze the blister. The flexible wall may be a top wall of the blister. A wall of the blister may be configured flexible to allow a user to roll and squeeze the blister. The first compartment may be configured as a first blister and the second compartment may be formed as a second blister.

As used herein, the term 'flexible' refers to an elastic or deformable structure. A flexible structure may be made of or may comprise a flexible material like natural rubber or synthetic rubber. A flexible structure may be deformed or may be squeezed by a user without rupturing.

One or more gate channels may be arranged between the first blister and the second blister. The first blister and the second blister may be connected by the one or more gate channels. A gate channel may be configured to provide a fluid connection between a first blister and a second blister. A gate channel may be openable or closable. A gate channel may be re-closable. A gate channel may comprise a collapsible portion as described herein. The collapsible portion may be configured as an opening mechanism of the gate channel. A gate channel may comprise a different opening mechanism instead of a collapsible portion.

An opening mechanism of a gate channel may comprise a liquid retention material as described herein. The liquid retention material may be arranged in the gate channel. Additionally or alternatively, the liquid retention material may be arranged in the second blister. The liquid retention material may hold back the liquid within the first blister before use of the pack. Pushing onto or squeezing the second blister may force at least a portion of the liquid to migrate into the first blister.

An opening mechanism of a gate channel may comprise a compressed elastic tubular wall of the gate channel. The compressed elastic tubular wall may extend in response to the pressure applied by a user pressing onto the flexible wall of the second blister. Thereby, the gate channel may open. This allows a temporary provision of a fluid connection between the first blister and the second blister. Thereby, cleaning liquid may migrate from the second compartment into the first compartment.

An opening mechanism of a gate channel may comprise a valve, preferably a one-way valve.

An opening mechanism of a gate channel may substitute the collapsible portion of a wall of the second compartment connected to said gate channel. An opening mechanism of a gate channel may substitute the collapsible portion of a wall of the third compartment connected to the gate channel.

The second compartment and the third compartment may be formed as a second blister comprising a separation wall to separate the second compartment and the third compartment in the second blister.

The collapsible portion of the wall of the second compartment may be arranged in a gate channel connected to the second compartment. The collapsible portion of the wall of the third compartment may be arranged in a gate channel connected to the third compartment.

Any one of the second and third compartments may be configured as capsules.

As used herein, the term 'capsule' refers to a structure formed by a shell or wall enclosing a liquid centre. The capsule may have a generally spherical shape. The capsule may have an oblong shape. The shell or wall of the capsule may be configured as a barrier. Preferably, the shell or wall of the capsule is configured as an impermeable barrier for a cleaning liquid in the centre of the capsule. The shell or wall of the capsule may be rigid or solid. The shell or wall of the capsule may be soft or deformable. The shell or wall of the capsule may break or collapse or rupture when an external force is applied to the capsule. An external force may be one or more of squeezing the capsule or puncturing the capsule. The shell or wall of the capsule may comprise one or more of gelatin or polysaccharides or their derivatives. The shell or wall of the capsule may comprise additives like plasticizers such as glycerin or sorbitol to decrease the capsule's hardness.

A capsule of a compartment may be formed from the wall of the compartment comprising the collapsible portion. The complete wall of the capsule may be collapsible. The wall of the capsule may comprise or may be made of any collapsible portion as described herein. The wall of the capsule may be made of any material suitable for breakable capsules known in the art. The wall of the capsule may collapse under the pressure applied by a user's

fingers pressing onto the outer surface of the pack. The wall of the capsule may collapse when a user contacts the capsule with a cleaning head of the cleaning tool.

Different capsules comprising different cleaning liquids may have different colours. Different colours may indicate different cleaning liquids. This may help a user to identify the correct cleaning liquid to be used in different cleaning steps.

A capsule may be arranged within the first compartment. A wall of the first compartment may be transparent such that a user can identify the capsule from outside. A capsule may be arranged at an end side of the first compartment. A capsule may be arranged adjacent to a cleaning head of the cleaning tool.

A capsule may be attached to a wall of the first compartment. For example, a capsule may be glued to a wall of the first compartment. Attaching a capsule to a wall of the first compartment beneficially secures the capsule in its predetermined position within the compartment, for example adjacent to a cleaning head of the cleaning tool.

The pack may comprise a manifold housing the second compartment. The pack may comprise a manifold housing the second compartment capsule. The pack may comprise a manifold housing the third compartment. The pack may comprise a manifold housing the third compartment capsule. The pack may comprise a first manifold housing the second compartment capsule and a second manifold housing the third compartment capsule.

Each manifold may comprise an opening for a cleaning head of the cleaning tool to enter the manifold. The wall of the capsule in the manifold may collapse when a user inserts a cleaning head of the cleaning tool into the manifold and against the capsule. The wall of the capsule in the manifold may collapse when a user presses onto the manifold with his fingers.

Any one of the first and second cleaning liquids may be configured as or comprise isopropanol liquid.

Alternative to cleaning liquid, liquid for a different purpose may be utilized in one or both of the second compartment and the third compartment. Exemplarily, liquid for medical applications may be provided in one or both of the second compartment and the third compartment.

The pack may further comprise a fourth compartment. The fourth compartment may be configured similar to the second compartment. The pack may further comprise a fifth compartment. The fifth compartment may be configured similar to the second compartment.

One or more of the second, third, fourth, and fifth compartments may be arranged in the first compartment. All of the second, third, fourth, and fifth compartments may be arranged in the first compartment.

-15-

One or more of the second, third, fourth, and fifth compartments may be configured as capsules. All of the second, third, fourth, and fifth compartments may be configured as capsules.

5 The invention further relates to a package comprising a multiple of packs as described herein.

Features described in relation to one aspect may equally be applied to other aspects of the invention.

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

Fig. 1 shows an illustrative view of the pack according to the invention;

Fig. 2 shows an illustrative view of the pack of Figure 1 which is ruptured along a pre-cut portion;

15 Fig. 3 shows a side view of the pack of Figures 1 and 2;

Fig. 4 shows a rupturing of a collapsible portion by a user applying pressure to a second compartment;

Fig. 5 shows a further embodiment, in which the second and a third compartment is depicted parallel to a first compartment;

20 Fig. 6 shows the operation of the embodiment depicted in Figure 5; and

Fig. 7 shows a rupturing of the collapsible portion by a user applying pressure to the second compartment in the embodiment shown in figures 5 and 6;

Fig. 8 shows a further embodiment, in which the second and third compartments are foldable.

25 Fig. 9 shows a further embodiment, in which the second and third compartments are arranged within the first compartment.

Fig. 10 shows a further embodiment comprising a fourth compartment and a fifth compartment.

30 Fig. 11 shows a further embodiment comprising a fourth compartment and a fifth compartment.

Fig. 12 shows a further embodiment comprising a liquid blister.

Fig. 13 shows a further embodiment comprising two compartments of a liquid blister.

Fig. 14 shows further embodiment comprising a roll-and-squeeze functionality.

Fig. 15 shows a further embodiment comprising manifolds.

35

In Figure 1, a pack 10 according to the invention is depicted. The pack 10 comprises a first compartment 12. The first compartment 12 may be made of plastic or a biodegradable material such as paper. Within the first compartment 12, a cleaning tool 14 is arranged. The first compartment 12 is configured to hold the cleaning tool 14. The first compartment 12 may hermetically seal the cleaning tool 14. The cleaning tool 14 comprises an elongated stick 16 for a user to hold the tool. At a first end of the elongated stick 16, the elongated stick 16 comprises a first cleaning head 18. The first cleaning head 18 may be configured as a cotton bud.

Figure 1 further shows a second compartment 20. The second compartment 20 is arranged adjacent the first compartment 12. The first compartment 12 has an elongate extension. The second compartment 20 has an elongate extension. The first compartment 12 as well as the second compartment 20 are arranged along the longitudinal axis of the pack 10. Consequently, the first end of the first compartment 12 is arranged adjacent the second compartment 20. Between the first compartment 12 and the second compartment 20, a collapsible portion 22 is provided. The collapsible portion 22 is configured such that the collapsible portion 22 can be ruptured by the first cleaning head 18 of the cleaning tool 14. The collapsible portion 22 can be ruptured, when the first cleaning head 18 of the cleaning tool 14 is pushed against the collapsible portion 22. The second compartment 20 is hermetically sealed before the collapsible portion 22 is ruptured. Preferably, the first compartment 12 and the second compartment 20 comprise a common wall. The first compartment 12 and the second compartment 20 are separated from each other by the collapsible portion 22. The collapsible portion 22 is preferably part of a common wall between the first compartment 12 and the second compartment 20. The common wall may form the first end of the first compartment 12.

A user may grip the cleaning tool 14 by the elongated stick 16 and push the first cleaning head 18 in the direction of the second compartment 20. The first cleaning head 18 will then rupture the collapsible portion 22 and penetrate into the second compartment 20. Within the second compartment 20, a first cleaning liquid is contained. The first cleaning liquid may be contained as free-flowing liquid within the second compartment 20. Alternatively, the first cleaning liquid may be retained in a liquid retention material such as a capillary material. The first cleaning liquid will soak into the first cleaning head 18. The user may then remove the first cleaning head 18 from the second compartment 20 and use the first cleaning head 18 of the cleaning tool 14 to clean an aerosol-generating device, preferably a heating chamber of the aerosol-generating device.

As shown in Figure 4, instead of the user pushing the cleaning head 18 of the cleaning tool 14 through the collapsible portion 22, external pressure may be applied to the second

compartment 20 by a user. The user may squeeze the second compartment 20. The increased pressure inside of the second compartment 20 may lead the cleaning liquid to press against and rupture the collapsible portion 22. The cleaning liquid may then flow into the first compartment 12 and soak into the cleaning head 18.

5 In addition to the first cleaning head 18, the cleaning tool 14 may comprise a second cleaning head 24. The second cleaning head 24 is preferably arranged opposite the first cleaning head 18 on a second end of the cleaning tool 14. Adjacent to the second end of the first compartment 12, opposite the first end of the first compartment 12, a third compartment 26 may be arranged. The third compartment 26 may have an elongate extension along the
10 longitudinal axis of the pack 10. The third compartment 26 may comprise a second cleaning liquid. The second cleaning liquid may be the same or a different cleaning liquid as the first cleaning liquid. The second cleaning head 24 may be configured identical to the first cleaning head 18. Preferably, the second cleaning head 24 is a cotton bud.

The second cleaning head 24 may be used together with the third compartment 26
15 similar to the first cleaning head 18 and the second compartment 20. A user may push the second cleaning head 24 of the cleaning tool 14 in the direction of the third compartment 26 or the third compartment 26 may be pressurized. Between the first compartment 12 and the third compartment 26, a second collapsible portion 28 is provided. The second collapsible portion 28 may be configured similar as the first collapsible portion 22. The second collapsible
20 portion 28 may be part of a common wall between the first compartment 12 and the third compartment 26. Pushing the second cleaning head 24 against the second collapsible portion 28 may lead to a rupturing of the second collapsible portion 28. The second cleaning head 24 may then penetrate into the third compartment 26. Alternatively, external pressure of the third compartment 26 may lead to a rupturing of the second collapsible portion 28. The third
25 compartment 26 may contain the second cleaning liquid in free-flowing form or in a liquid retention material. The second cleaning head 24 may be soaked with the second cleaning liquid to be used in a second cleaning operation. Any one of the first cleaning head 18 and the second cleaning head 24 may also be used in a dry form.

For accessing the cleaning tool 14, more preferably the elongated stick 16 of the
30 cleaning tool 14, the pack 10 may comprise a pre-cut portion 30. The pre-cut portion 30 may be arranged in the middle of the pack 10 perpendicular to the longitudinal axis of the pack 10. During use, a user may initially rupture the pre-cut portion 30 of the pack 10 so that the elongated stick 16 of the cleaning tool 14 becomes accessible.

Figure 2 shows the initial stages of using the pack 10. Figure 2 shows a rupturing of
35 the pre-cut portion 30. After rupturing of the pre-cut portion 30, half of the pack 10 can be removed such that the cleaning tool 14 becomes accessible. In the example shown in Figure

2, the half of the pack 10 containing the third compartment 26 is removed. However, also the other half could be removed initially. After removing half of the pack 10, the elongated stick 16 of the cleaning tool 14 can be gripped by a user and the first cleaning head 18 can be pushed in the direction of the second compartment 20. After the first cleaning head 18 is impregnated with the first cleaning liquid, the cleaning tool 14 can be fully removed from the pack 10 so as to be used in a cleaning operation. Since the third compartment 26 is still hermetically sealed, the cleaning tool 14 can be used in a second cleaning operation after the first cleaning operation. In this regard, the cleaning tool 14 can be inserted into the second part of the pack 10 for preparing the second cleaning operation. The cleaning tool 14 may be inserted with the second cleaning head 24 first into the ruptured first compartment 12 shown in Figure 2. The second cleaning head 24 may then be pushed through the second collapsible portion 28 into the third compartment 26 for being impregnated with the second cleaning liquid.

Figure 3 is a side view of the pack 10 containing the cleaning tool 14. As can be seen in Figure 3, the cleaning tool 14 is contained in the first compartment 12. The second compartment 20 is arranged adjacent the first end of the first compartment 12 and the third compartment 26 is arranged adjacent the second end of the first compartment 12. The second end of the first compartment 12 is arranged opposite the first end of the first compartment 12.

Figure 5 shows a further embodiment, in which the compartments are not aligned along the longitudinal axis of the pack 10. In the embodiment shown in Figure 5, the second compartment 20 overlies the first end of the first compartment 12. In other words, the second compartment 20 is arranged parallel to the first compartment 12 and adjacent to the first end of the first compartment 12. In the embodiment shown in Figures 1 to 3, the first cleaning head 18 is pushed into the second compartment 20 along the longitudinal axis of the pack 10. In contrast, in the embodiment shown in Figure 5, the first cleaning head 18 penetrates the first collapsible portion 22, when the first cleaning head 18 is pushed in an angular direction. In other words, the first cleaning head 18 is pushed into the second compartment 20 and ruptures the first collapsible portion 22, when the first cleaning head 18 is pushed perpendicular to the longitudinal axis of the pack 10. In the embodiment shown in Figure 5, a similarly arranged third compartment 26 adjacent to the second end of the first compartment 12 opposite the first end is depicted.

Figure 6 shows the rupturing of the first collapsible portion 22 and the penetration of the first cleaning head 18 into the second compartment 20 in the embodiment shown in Figure 5. The first cleaning head 18 is pushed in the direction perpendicular to the longitudinal axis of the pack 10 towards the second compartment 20 and the first collapsible portion 22 is ruptured. Alternatively, in this embodiment, the second compartment 20 may be pushed in the direction of the first cleaning head 18 as depicted in Figure 6. In other words, the first cleaning head 18

may be pushed perpendicular to the longitudinal axis of the pack 10 in the direction of the second compartment 20 or vice versa.

Alternatively to the first cleaning head 18 being pushed through the first collapsible portion 22, the second compartment 20 may be pressurized by applying an external pressure.

5 As shown in Figure 7, a user may pressure the second compartment 20 in order to rupture the first collapsible portion 22. The cleaning liquid may then flow into the first compartment 12 and soak into the cleaning first head 18. Similarly, the third compartment 26 may be pressurized by a user to rupture the second collapsible portion 28.

Figure 8 shows a further embodiment, in which the second compartment 20 and the
10 third compartment 26 are arranged distanced from the first compartment 12 and are respectively connected to the first compartment 12 via a foldable link so that the second compartment 20 and the third compartment 26 can be folded towards the first compartment 12. This embodiment is of particular importance for the manufacturing of the pack 10. During manufacturing, an essentially planar structure can be manufactured as shown in Figure 8.
15 Subsequently, the second compartment 20 and the third compartment 26 can be pivoted to lie next to the first compartment 12. The folding action may be conducted during manufacturing. After folding, the two liquid-containing compartments 20, 26 may be attached to the ends of the first compartment 12 by, for example, gluing. After pivoting the second compartment 20 and the third compartment 26, the structure of the pack 10 is similar to the pack 10 shown in
20 Figures 5 and 6. Since two walls are arranged between the second compartment 20 and the first compartment 12 and between the third compartment 26 and the first compartment 12, respectively, the compartments are not separated by a common wall. In order to facilitate the collapsible portions, the wall of the second compartment 20 which lies against the first compartment 12 after folding may comprise a collapsible portion. The corresponding portion
25 of the wall of the first compartment 12 which lies against the second compartment 20 after folding may comprise perforations. Similarly, the wall of the third compartment 26 lying against the first compartment 12 after folding may comprise a collapsible portion and the wall of the first compartment 12 lying against the third compartment 26 after folding of the third compartment 26 may comprise perforations.

30 Figure 9 shows a cross-sectional view of a further embodiment in which the second compartment 20 and the third compartment 26 are arranged within the first compartment 12. A wall of the first compartment 12 comprises a top layer 32 and a base layer 34. The base layer 34 may be a resilient layer. Each of the second and third compartments 20, 26 comprises an individually encapsulated cleaning liquid. The cleaning liquids may be the same or may be
35 different. The capsules formed by the respective walls of the second and third compartments 20, 26 are collapsible. Glue 36 may be applied to adhere one or both of the second

compartment 20 capsule and the third compartment 26 capsule to the inner side of the wall of the first compartment 12.

Figure 10 shows a cross-sectional view of a further embodiment which is similar to the embodiment of Figure 9. In addition to the embodiment of Figure 9, the embodiment of Figure 10 comprises a fourth compartment 38 and a fifth compartment 40 arranged within the first compartment 12. The fourth compartment 38, the second compartment 20, the cleaning tool 14, the third compartment 26, and the fifth compartment 40 are arranged consecutively within the first compartment 12 along a longitudinal direction of the pack 10. Each of a wall of the second to fifth compartments forms a respective capsule. The second compartment 20 capsule is arranged between the fourth compartment 38 capsule and one end of the cleaning tool 14. The third compartment 26 capsule is arranged between the fifth compartment 40 capsule and the other end of the cleaning tool 14.

Different cleaning liquids which are not soluble with each other, for example water and isopropanol, may be provided in different compartments. The second and third compartments 20, 26 may comprise a first liquid, for example water. The fourth and fifth compartments 38, 40 may comprise a second liquid which is not soluble in the first liquid, for example isopropanol.

Figure 11 shows a top view of a further embodiment which is similar to the embodiment of Figure 10. The embodiment of Figure 11 differs from the embodiment of Figure 10 in the arrangement of the second to fifth compartments 20, 26, 38, 40. In the embodiment of Figure 11, the second compartment 20 capsule and the fourth compartment 38 capsule are arranged in parallel along a longitudinal direction of the pack 10, and the third compartment 26 capsule and the fifth compartment 40 capsule are arranged in parallel along a longitudinal direction of the pack 10.

Figure 12 shows a perspective view of a further embodiment in which each of the first compartment 12 and the second compartment 20 is in the form of a blister provided on top of a common base layer 34. The first compartment 12 comprises a cleaning tool 14 as indicated by dotted lining. The second compartment 20 is in the form of a liquid blister comprising a cleaning liquid. A wall of the second compartment 20 is made of a flexible material such that the second compartment is deformable or squeezable. The first compartment 12 blister and the second compartment 20 blister are connected by common gate channels 42. The collapsible portion of the second compartment is provided within the gate channels 42. The pack 10 is thus arranged such that at least a portion of the cleaning liquid may be forced to migrate through one or both of the gate channels 42 from the liquid blister into the first compartment 12 squeezing the liquid blister.

Any collapsible portion as described herein may be utilized within the gate channels. Alternatively, the gate channels 42 may provide any other opening mechanism as described herein.

Figure 13 shows a top view of a further embodiment which is similar to the embodiment of Figure 12. In difference to the embodiment of Figure 12, in the embodiment of Figure 13 the liquid blister comprises a separation wall 44 such that the liquid blister divides into a second compartment 20 and a third compartment 26.

Figure 14 shows a top view of a further embodiment which is similar to the embodiment of Figure 12. In difference to the embodiment of Figure 12, in the embodiment of Figure 14 only one gate channel 42 is provided. Also in difference to the embodiment of Figure 12, a weakening line 46 is provided in the base layer 34. A user may rupture the weakening line 46 and roll-up the lower part of the pack comprising the second compartment 20 much like a tooth paste. By that rolling and squeezing, the pressure within the second compartment 20 rises such that at least a portion of the cleaning liquid is forced through the gate channel 42 into the first compartment 12.

Figure 15 shows a perspective view of a further embodiment comprising first and second manifolds 48 at both longitudinal ends of the pack 10. Each of the first and second manifolds 48 hosts a collapsible capsule comprising second and third compartments 20, 26, respectively. Each manifold 48 comprises an opening for a cleaning head 18, 20 of the cleaning tool 14 to enter the manifold 48.

The embodiment of Figure 15 may be used by a method comprising rupturing the weakening line 46 to open the first compartment 12 and taking the cleaning tool 14 out of the pack 10. The method may further comprise inserting a first cleaning head 18 into the first manifold 48. The method may further comprise squeezing with fingers the collapsible capsule 20 in the manifold 48 up to breakage and liquid release. The method may further comprise soaking the inserted first cleaning head 18 with the liquid. The method may further comprise extracting the soaked first cleaning head 18 from the manifold 48. The method may further comprise cleaning parts of an aerosol-generating device with the soaked first cleaning head 18. The method may further comprise inserting a second cleaning head 24 into the second manifold 48. The method may further comprise squeezing with fingers the collapsible capsule 26 in the second manifold 48 up to breakage and liquid release. The method may further comprise soaking the inserted second cleaning head 24 with the liquid. The method may further comprise extracting the soaked second cleaning head 24 from the second manifold 48. The method may further comprise cleaning parts of the aerosol-generating device with the soaked second cleaning head 24.

-22-

CLAIMS

1. A pack for a cleaning tool of an aerosol-generating device, comprising:
a first compartment containing an elongated stick having at least one end provided with
5 liquid-absorbent material, such as cotton, as a cleaning head;
a second compartment comprising a cleaning liquid;
wherein a wall of the second compartment comprises a collapsible portion.
2. A pack according to claim 1, wherein the first compartment and the second
10 compartment are arranged such that the first compartment and the second compartment are
fluidly connected when the collapsible portion is ruptured.
3. A pack according to claim 2, wherein the first compartment and the second
compartment are separated by a common wall, and wherein the collapsible portion is
15 preferably arranged in the common wall.
4. A pack according to any of the preceding claims, wherein the wall of the second
compartment forms a second compartment capsule.
- 20 5. A pack according to claim 4, wherein the second compartment capsule is
arranged within the first compartment.
6. A pack according to claim 5, wherein the second compartment capsule is glued
to a wall of the first compartment.
25
7. A pack according to claim 2, wherein the first compartment and the second
compartment are connected by a common gate channel, and wherein the collapsible portion
is preferably arranged in the gate channel.
- 30 8. A pack according to claim 7, wherein the second compartment is in the form of
a liquid blister.
9. A pack according to claim 8, wherein the pack is arranged such that at least a
portion of the cleaning liquid may be forced to migrate through the gate channel from the liquid
35 blister into the first compartment by rolling and squeezing the liquid blister.

-23-

10. A pack according to any of the preceding claims, wherein the first compartment and the second compartment are arranged on the same longitudinal axis of the pack.

5 11. A pack according to any of the preceding claims, wherein the second compartment overlies at least part of one end of the first compartment.

10 12. A pack according to claim 1 or claim 2, wherein the first compartment and the second compartment are located laterally next to each other and are connected via a foldable link so that the second compartment can be folded to overlie at least part of one end of the first compartment.

15 13. A pack according to any of the preceding claims, further comprising a third compartment containing a cleaning liquid, wherein a wall of the third compartment comprises a collapsible portion.

14. A pack according to claim 13, wherein the first compartment and the third compartment are arranged such so that the first compartment and the third compartment are fluidly connected when the collapsible portion of the wall of the third compartment is ruptured.

20 15. A pack according to claim 14, wherein the first compartment and the third compartment are separated by a common wall, and wherein the collapsible portion of the wall of the third compartment is preferably arranged in the common wall.

25 16. A pack according to any of claims 13 to 15, wherein the wall of the third compartment forms a third compartment capsule.

17. A pack according to claim 16, wherein the third compartment capsule is arranged within the first compartment.

30 18. A pack according to claim 17, wherein the second compartment capsule is arranged adjacent to one end of the cleaning tool and, wherein the third compartment capsule is arranged adjacent to the other end of the cleaning tool.

19. A pack according to claim 17 or claim 18, further comprising

-24-

- a fourth compartment containing a cleaning liquid, wherein a wall of the fourth compartment comprises a collapsible portion, and wherein the wall of the fourth compartment forms a fourth compartment capsule, and

5 - a fifth compartment containing a cleaning liquid, wherein a wall of the fifth compartment comprises a collapsible portion, and wherein the wall of the fifth compartment forms a fifth compartment capsule,

 wherein the fourth compartment capsule and the fifth compartment capsule are arranged within the first compartment.

10 20. A pack according to claim 19, wherein the second compartment capsule and the fourth compartment capsule are arranged adjacent to one end of the cleaning tool and, wherein the third compartment capsule and the fifth compartment capsule arranged adjacent to the other end of the cleaning tool.

15 21. A pack according to claim 20, wherein the second compartment capsule and the fourth compartment capsule are arranged in parallel along a longitudinal direction of the pack and, preferably, wherein the third compartment capsule and the fifth compartment capsule are arranged in parallel along a longitudinal direction of the pack.

20 22. A pack according to claim 20, wherein the second compartment capsule is arranged between the fourth compartment capsule and one end of the cleaning tool and, preferably, wherein the third compartment capsule is arranged between the fifth compartment capsule and the other end of the cleaning tool.

25 23. A pack according to any of claims 17 to 22, wherein at least one of the capsules is glued to a wall of the first compartment.

 24. A pack according to any of claims 19 to 23, wherein the second compartment capsule and the third compartment capsule comprise a first cleaning liquid, wherein the fourth
30 compartment capsule and the fifth compartment capsule comprise a second cleaning liquid, and wherein the first cleaning liquid is different from the second cleaning liquid.

 25. A pack according to claim 24, wherein the first and second cleaning liquids are not soluble in each other, preferably, wherein one of the first and second cleaning liquids is
35 water and the other one is isopropanol.

26. A pack according to claim 14, wherein the first compartment and the third compartment are connected by a common gate channel, wherein the collapsible portion of the wall of the third compartment is preferably arranged in the gate channel, wherein the second compartment and the third compartment are in the form of a liquid blister, and wherein the second compartment and the third compartment in the liquid blister are separated by a separation wall of the liquid blister.

27. A pack according to claim 14 or claim 15, wherein the first compartment is arranged between the second compartment and the third compartment.

28. A pack according to claim 27, wherein the second compartment is arranged adjacent to one end of the first compartment, and wherein the third compartment is arranged adjacent to the other end of the first compartment.

29. A pack according to any of claims 13 to 28, wherein the first compartment and the third compartment are located on the same longitudinal axis of the pack.

30. A pack according to any of claims 13 to 29, wherein the third compartment overlies at least part of the other end of the first compartment.

31. A pack according to claim 27 or claim 28, wherein the third compartment is located laterally next to the other end of the first compartment and connected to the first compartment via a foldable link so that the third compartment can be folded to overlie at least part of the other end of the first compartment.

32. A pack according to any of claims 13 to 23 or claims 26 to 31, wherein the cleaning liquid in the second compartment and the cleaning liquid in the third compartment are different.

33. A pack according to any of the preceding claims, wherein the collapsible portion comprises a weakened region, preferably a weakening line.

34. A pack according to any of the preceding claims, wherein the collapsible portion is configured to rupture when the cleaning head is pushed against the collapsible portion to fluidly connect the first compartment with the second compartment or the third compartment.

-26-

35. A pack according to any of claims 1 to 33, wherein the collapsible portion is configured to rupture when the cleaning liquid in the second compartment or the third compartment is pressed against the collapsible portion to fluidly connect the first compartment with the second compartment or the third compartment.

5

36. A pack according to any of the preceding claims, wherein the elongate stick of the cleaning tool is made of a biodegradable natural cellulose material.

37. A pack according to any of the preceding claims, wherein both ends of the elongate stick have cleaning heads.

10

38. A pack according to any of the preceding claims, wherein the first compartment further comprises one slit-cut or a cut-out portion for facilitating an easy access to the stick.

15

39. A pack according to any of the preceding claims, wherein the first compartment is made from a different material than one or both of the second compartment and the third compartment.

40. A pack according to claim 2, comprising a first manifold, the first manifold housing the second compartment, wherein the wall of the second compartment forms a second compartment capsule, and wherein the first manifold comprises an opening for a cleaning head of the cleaning tool to enter the first manifold.

20

41. A pack according to claim 40, comprising a second manifold, the second manifold housing a third compartment comprising a cleaning liquid, wherein a wall of the third compartment comprises a collapsible portion, wherein the wall of the third compartment forms a third compartment capsule and, wherein the second manifold comprises an opening for a cleaning head of the cleaning tool to enter the second manifold.

25

42. A pack according to claim 41, wherein the first compartment is arranged between the first manifold and the second manifold, preferably, wherein the opening of the first manifold is arranged at one end of the pack and the opening of the second manifold is arranged at the other end of the pack.

30

43. A package comprising a multiple of packs according to any of the preceding claims.

35

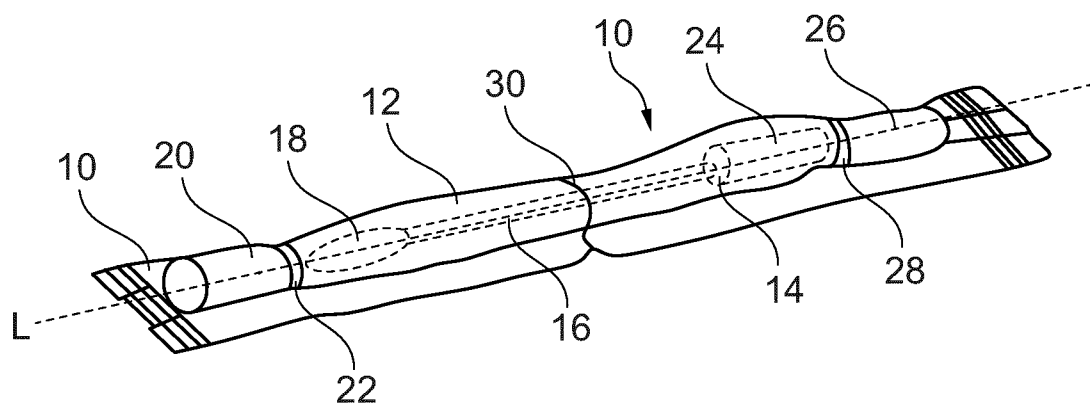


Fig. 1

2/15

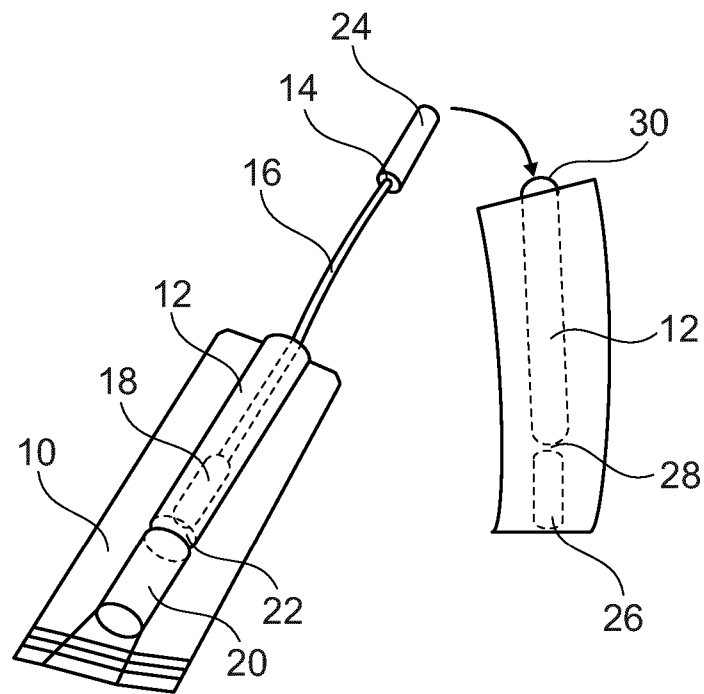


Fig. 2

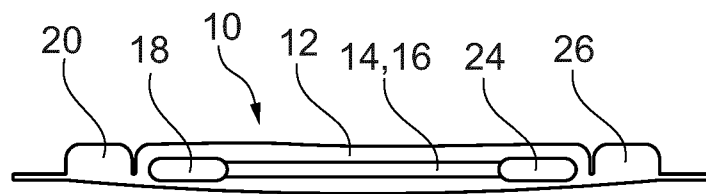


Fig. 3

4/15

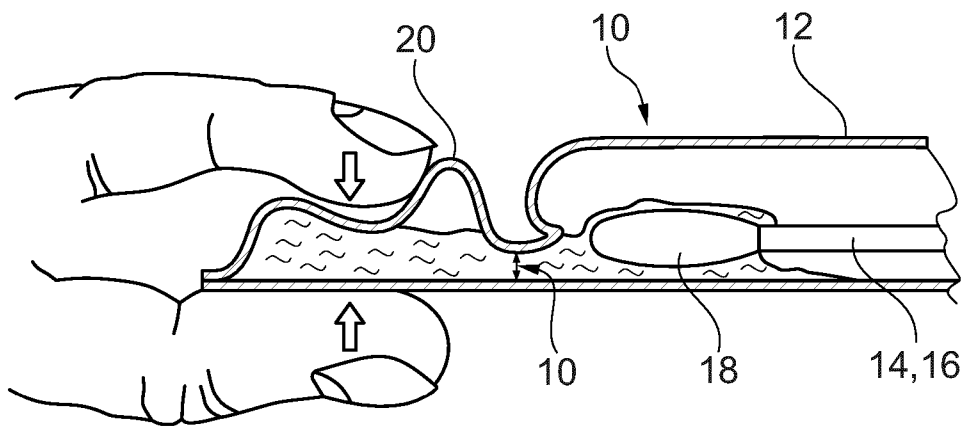


Fig. 4

5/15

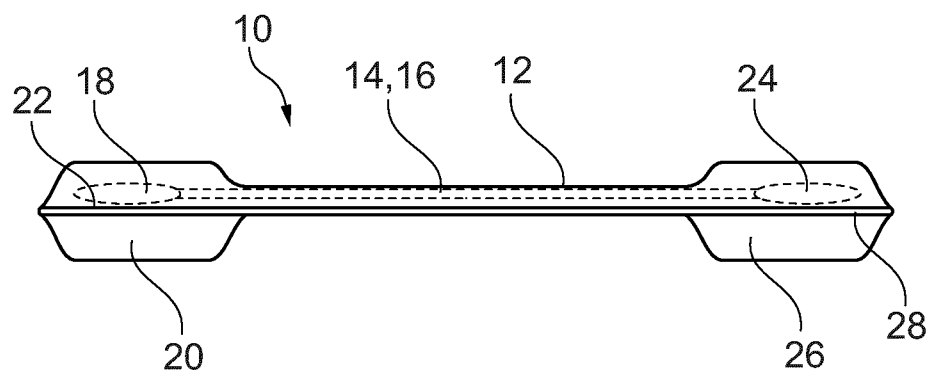


Fig. 5

6/15

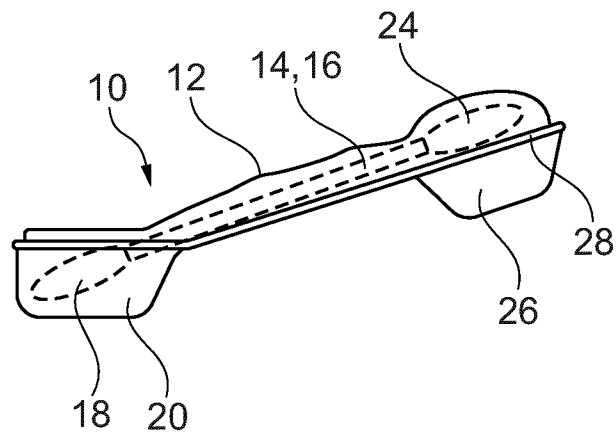


Fig. 6

7/15

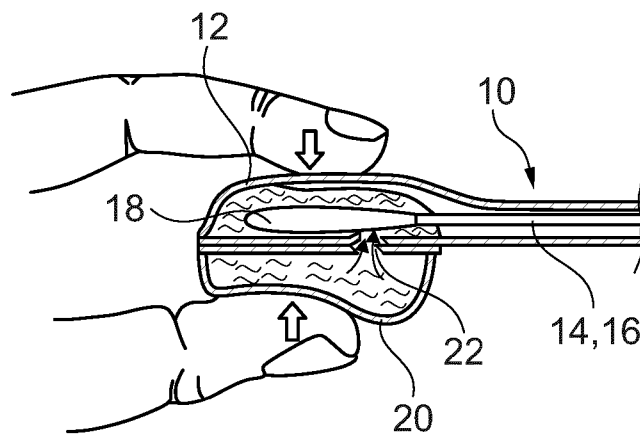


Fig. 7

8/15

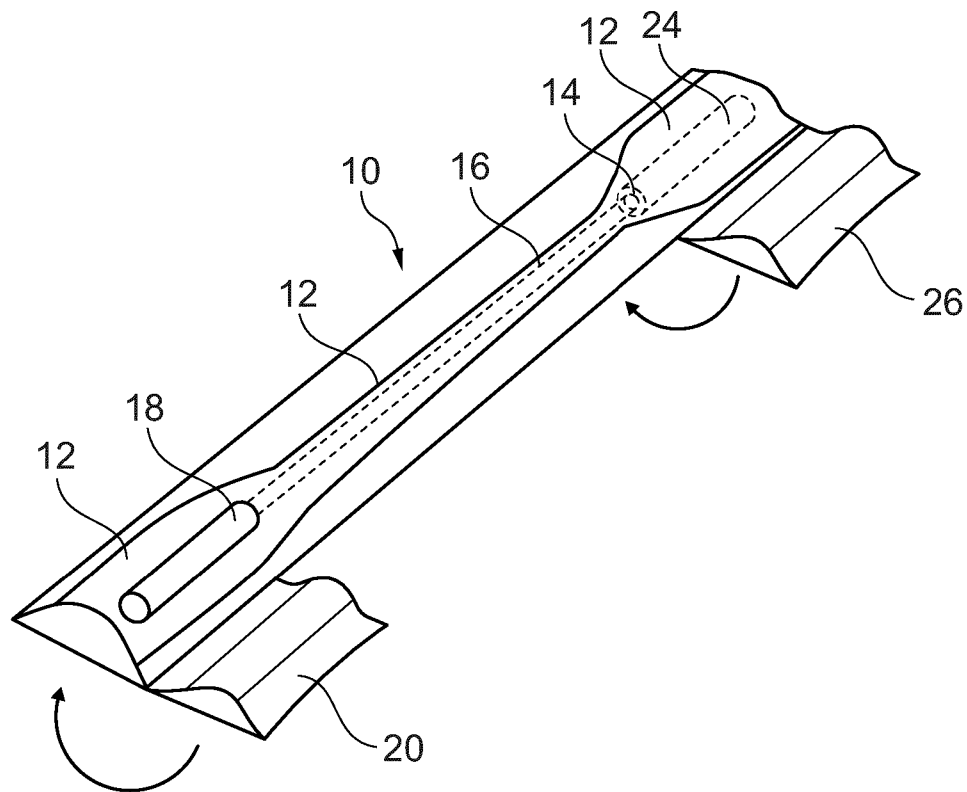


Fig. 8

Fig. 9

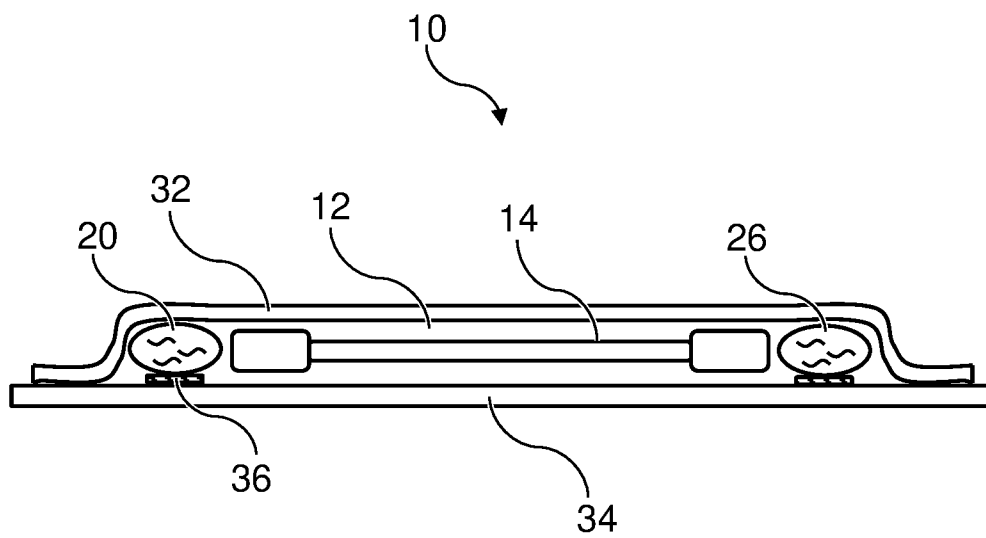


Fig. 10

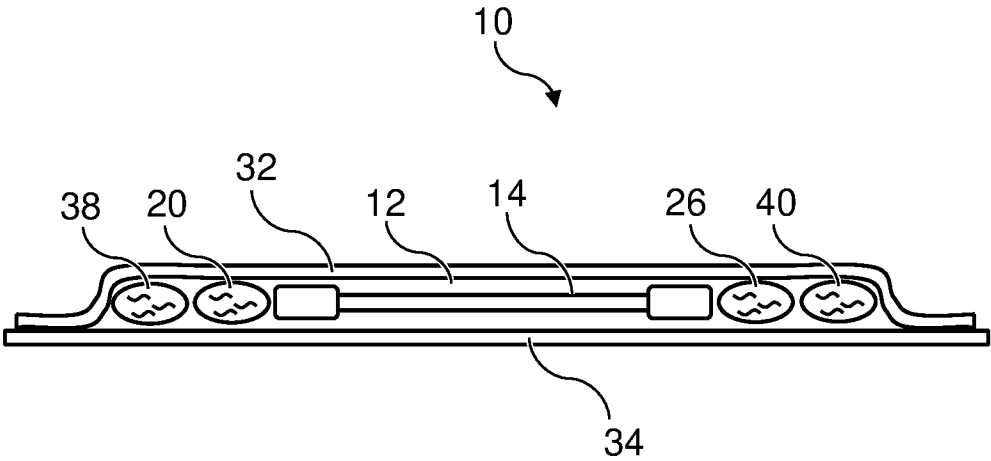


Fig. 11

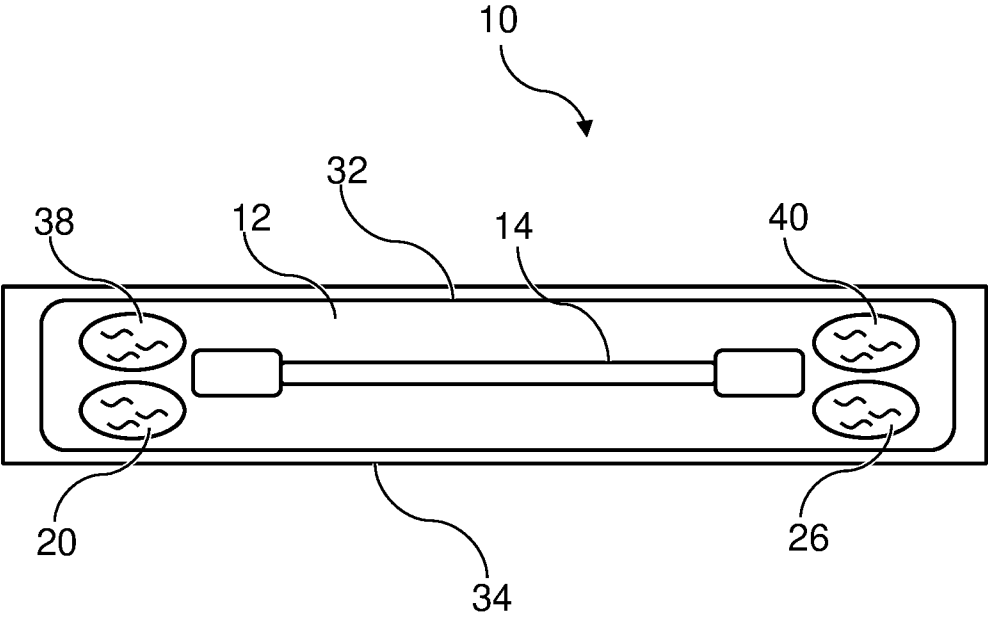


Fig. 12

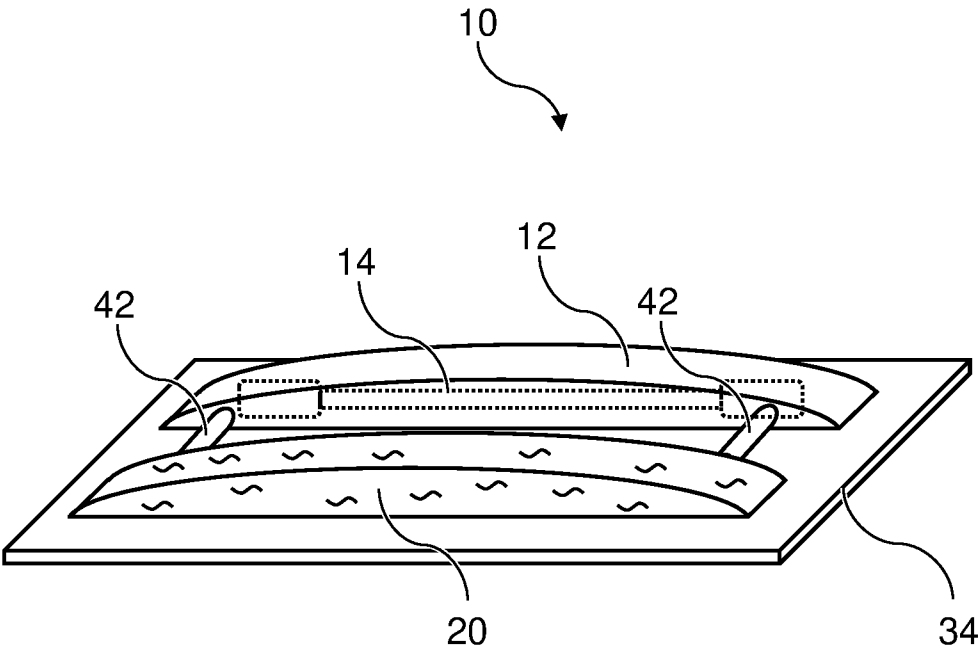


Fig. 13

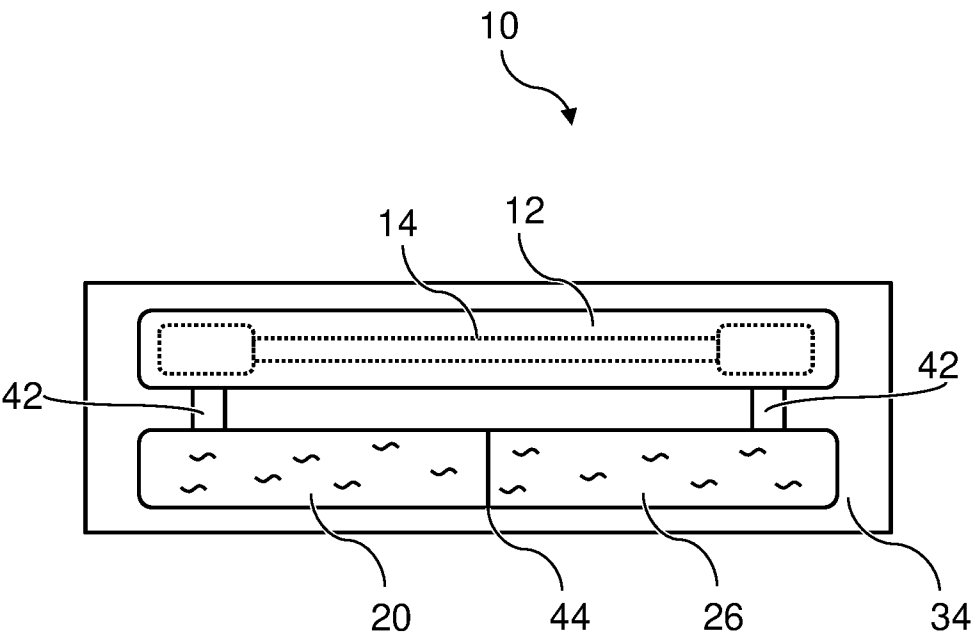


Fig. 14

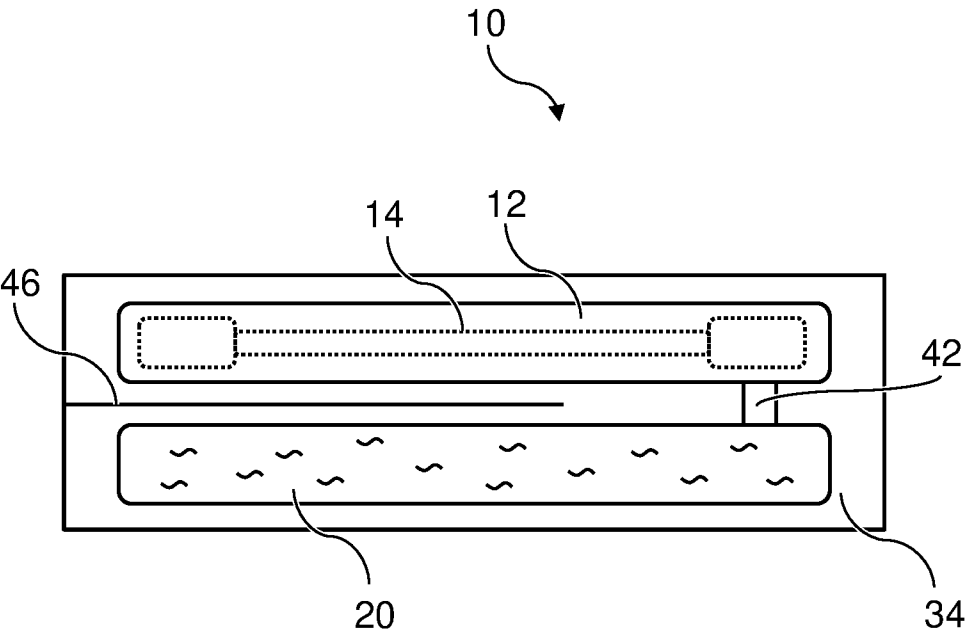
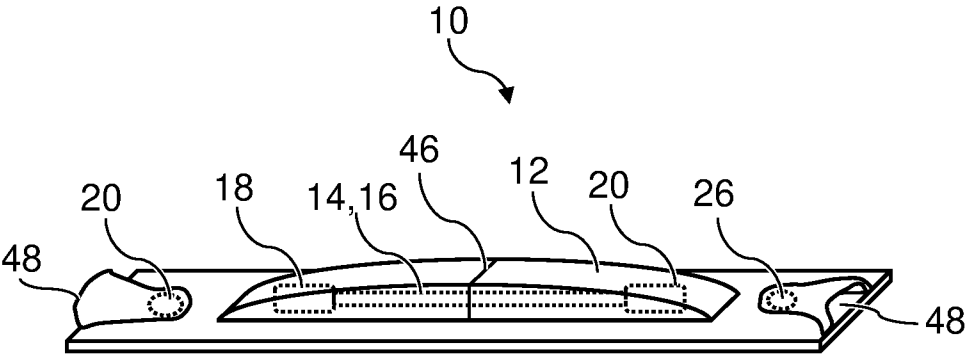


Fig. 15



INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2020/062822

A. CLASSIFICATION OF SUBJECT MATTER
INV. B65D81/32 A61M35/00
ADD.

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
B65D A61F A61M

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

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

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP H07 39818 U (**) 18 July 1995 (1995-07-18)	1-3,10, 33,35, 37,38
Y	figures 1,2	36,43
A		31,40-42
X	----- WO 2004/041673 A1 (FUJIMORI KOGYO CO [JP]; MIURA KOICHI [JP] ET AL.) 21 May 2004 (2004-05-21)	1-3,11, 33,34, 38,39
Y	abstract; figures 1-13	36,43
X	----- JP H10 86977 A (SEKISUI CHEMICAL CO LTD) 7 April 1998 (1998-04-07)	1,2,10, 11,39
Y	abstract; figures 1-14	12,36,43
	----- -/-	



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

25 June 2020

Date of mailing of the international search report

08/07/2020

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Authorized officer

Fitterer, Johann

INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2020/062822

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2016/257470 A1 (CASEY WILLIAM J [US] ET AL) 8 September 2016 (2016-09-08) paragraph [0065] - paragraph [0073]; claims 1,2; figures 22-26 -----	1-3,10, 33-35,38
X	JP 2009 148389 A (ASO SEIYAKU KK) 9 July 2009 (2009-07-09) abstract; figures 1-8 -----	1-3,33, 34 12
X	JP 2006 034416 A (SANRITSU KK) 9 February 2006 (2006-02-09) abstract; figures 1-5 -----	1,2,4-6, 10,33, 35,37,43 16-25,43
X	JP 2009 112666 A (ASO SEIYAKU KK) 28 May 2009 (2009-05-28) abstract; figures 1-14 -----	1,2,7-9, 33 26
X	JP 2010 029490 A (ASO SEIYAKU KK) 12 February 2010 (2010-02-12) abstract; figures 1-9 -----	1,2,7-10 26
X	JP 2003 292041 A (RIBATEEPU SEIYAKU KK) 15 October 2003 (2003-10-15) abstract; figures 3-6 -----	1-3, 13-15, 32-35 16-30,32
X	EP 1 061 005 A1 (DENTACO GMBH [DE]) 20 December 2000 (2000-12-20) paragraph [0017] - paragraph [0023] figures 1-4 -----	1-3,10, 12-15, 27-29, 33-35 12, 16-25, 27-30,32
Y	EP 0 722 705 A2 (NOVAMONT SPA [IT]) 24 July 1996 (1996-07-24) column 1, line 32 - line 50 claim 1 -----	36

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2020/062822

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
JP H0739818	U	18-07-1995	NONE	
WO 2004041673	A1	21-05-2004	AU 2003277563 A1 JP 4230278 B2 JP 2004203484 A WO 2004041673 A1	07-06-2004 25-02-2009 22-07-2004 21-05-2004
JP H1086977	A	07-04-1998	JP 3759790 B2 JP H1086977 A	29-03-2006 07-04-1998
US 2016257470	A1	08-09-2016	NONE	
JP 2009148389	A	09-07-2009	JP 5052320 B2 JP 2009148389 A	17-10-2012 09-07-2009
JP 2006034416	A	09-02-2006	NONE	
JP 2009112666	A	28-05-2009	JP 5037304 B2 JP 2009112666 A	26-09-2012 28-05-2009
JP 2010029490	A	12-02-2010	JP 5180721 B2 JP 2010029490 A	10-04-2013 12-02-2010
JP 2003292041	A	15-10-2003	JP 3654870 B2 JP 2003292041 A	02-06-2005 15-10-2003
EP 1061005	A1	20-12-2000	DE 19927572 A1 EP 1061005 A1	21-12-2000 20-12-2000
EP 0722705	A2	24-07-1996	AR 000092 A1 AT 197888 T AU 710849 B2 CA 2160933 A1 CN 1131044 A CZ 288736 B6 DE 69519560 T2 DK 0722705 T3 EP 0722705 A2 ES 2153871 T3 FI 956085 A GR 3035421 T3 HU 219443 B IL 115718 A IT MI942616 A1 JP H08215246 A KR 960020958 A NZ 280312 A PL 311184 A1 PT 722705 E SK 132795 A3 TW 458786 B US 5902262 A ZA 9510562 B	21-05-1997 15-12-2000 30-09-1999 24-06-1996 18-09-1996 15-08-2001 31-05-2001 27-12-2000 24-07-1996 16-03-2001 24-06-1996 31-05-2001 28-04-2001 26-07-2000 24-06-1996 27-08-1996 18-07-1996 26-05-1997 24-06-1996 30-03-2001 05-02-1997 11-10-2001 11-05-1999 13-06-1996