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(54) **TOBACCO PRODUCT FOR HNB DEVICES**

(57) Tobacco product for an aerosol generating device , wherein the tobacco product comprises an aerosolizable agent and a shell, the aerosolizable agent being encapsulated by the shell, wherein the shell comprises a hydrocolloidal material, is fluid tight at an ambient storage temperature of the tobacco product and decomposable by heat. According to the invention the aerosolizable agent comprises tobacco particles and an aerosol former which are aerosolizable by heat.

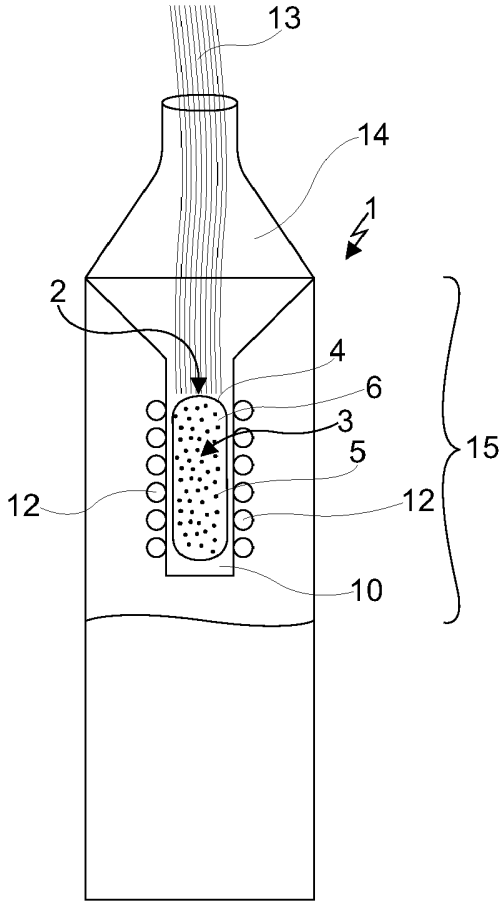


Fig. 3

EP 4 062 775 A1

## Description

**[0001]** The present invention is related to a tobacco product for an aerosol generating device, wherein the tobacco product comprises an aerosolizable agent and a shell, the aerosolizable agent being encapsulated by the shell, wherein the shell comprises a hydrocolloidal material, is fluid tight at an ambient storage temperature of the tobacco product and decomposable by heat.

**[0002]** Capsules with flavour for usage in conventional cigarettes are known in the tobacco industry. Such capsules often contain flavour compounds like menthol, fruit flavours or other synthetic flavours. And by releasing their flavoured content, the capsule provides an extra taste sensation to the user.

**[0003]** The document WO2019166640A1 for example discloses a breakable capsule which is arranged in an aerosol generating article for a heat not burn device. The capsule comprises a liquid, which can be released from the capsule by applying force on the capsule and crushing it.

**[0004]** Although there are many different types of flavours available on the market, some users prefer an intense and natural taste of tobacco. Since an intense flavour of tobacco is sometimes not possible by just heating tobacco in heat not burn devices, people who appreciate an intense flavour may not be satisfied with such devices. Until now, capsules with flavours have been built in such way that a consumer has to crush the capsule to release the flavour. This is especially disadvantageous if the capsule contains natural flavours and should preferably be broken just when the taste of the actual tobacco product is fading.

**[0005]** It is therefore the objective of the invention to provide a tobacco product, which provides the consumer with a natural tobacco flavour especially in heat not burn devices, and in addition is preferably dispensed exactly when flavour enhancement is desired.

**[0006]** The afore mentioned problems are solved by a tobacco product according to the invention, wherein the aerosolizable agent in the tobacco product comprises tobacco particles and an aerosol former which are aerosolizable by heat.

**[0007]** It is conceivable that a tobacco product according to the invention can be used in an aerosol generating device which is preferably an electronic powered smoking device.

**[0008]** Preferably the tobacco product can be used in combination with an aerosol generating article for generating an inhalable aerosol when heated. In this case the tobacco product is then preferably arranged inside a filter section of the aerosol generating article. It is conceivable that by using the tobacco product with an aerosol generating article in an aerosol generating device, the filter section of the aerosol generating article is used as an aerosol outlet or mouthpiece of the aerosol generating system. Further it is conceivable that the shell of the tobacco product is decomposable by heat. Preferably, by applying heat to the tobacco product during smoking, the shell decomposes to a point it releases the aerosolizable agent into the aerosol generating article.

**[0009]** The term "decomposable" means that the shell is no longer fluid-tight when heated and thus no longer completely encloses the aerosolizable agent or releases it into the environment. Preferably the term "decomposition" thereby describes a fusion and/or melting and/or softening until rupturing of the shell.

**[0010]** Preferably the tobacco product can also be used alone and thereby not in combination with any further aerosol generating article. It is conceivable that the tobacco product is then arranged in an aerosol generating device in such way, that it is heated by a heating element of the device. Preferably, by applying heat to the tobacco product during usage of the device, the shell of the tobacco product decomposes and releases the aerosolizable agent into device. Preferably the tobacco product aerosolises during heating and also preferably the resulting inhalable aerosol is released through a mouthpiece or filter section which functions as an aerosol outlet of the device.

**[0011]** Preferably the material of the shell is meltable at a minimum temperature of 50°C, more preferably at 60°C and most preferably at 70°C. Also preferably the material of the shell is meltable at a maximum temperature of 100°C, more preferably at 90°C and most preferably at 80°C.

**[0012]** Preferably the shell is thereby meltable within the following temperature ranges:

- 50°C - 80°C, 50°C - 90°C or 50°C - 100°C
- 60°C - 80°C, 60°C - 90°C or 60°C - 100°C
- 70°C - 80°C, 70°C - 90°C or 70°C - 100°C

**[0013]** In a preferred embodiment the shell has a maximum thickness of less than 100 microns, preferably between 1 and 40 microns and most preferably between 1 and 10 microns. It is conceivable that other thicknesses can also be used. Preferably other thicknesses are used by a changing of the ingredients or composition of the shell to preferably maintain the same or similar stability at ambient and decomposition under same or similar heat. Preferably the shell of the tobacco product is thick enough to protect the aerosolizable agent from external influences. It is conceivable that such influences can be heat and/or force and/or light. Preferably, the shell at least partially dissolves at a certain temperature, releasing the enclosed aerosolizable agent.

**[0014]** In a preferred embodiment the tobacco particles have a mean particle size (D90) equal to or less than 100 microns, preferably equal to or less than 50 microns and most preferably equal to or less than less than 30 microns. It is conceivable that the particles can also have a mean particle size (D90) of less than 100 microns, preferably less than 50 microns and most preferably less than 30 microns. It is conceivable that the particles can also have a mean particle size (D90) of less than 100

microns, preferably less than 50 microns and most preferably equal to or less than 30 microns. It is conceivable that the particles can have a greater and preferably also smaller particle size. It is also conceivable that smaller tobacco particles have a greater surface and thereby preferably release more taste. It is conceivable that the tobacco particles have a size at which mixing with an aerosol former results in a paste.

**[0015]** In a preferred embodiment the aerosol former comprises at least one of the following ingredients which are preferably suitable for generating vapour:

- polyhydric alcohols or diols such as polypropylene glycol (PG), triethylene glycol, 1-3-butanediol and/or glycerin
- esters of polyhydric alcohols such as glycerol mon-, di- or triacetate triethyl citrate or myristates including ethyl myristate and/or isopropyl myristate
- aliphatic esters of mono-, di- or polycarboxylic acids, such as methyl stearate, dimethyldodecanedioate and/or dimethyl tetradecanedioate

**[0016]** It is conceivable that each of the ingredients for the aerosol former can be used alone. Further it is conceivable that at least two of the ingredients can be combined. Preferably, also materials can be used which are mentioned in the groups of the above-mentioned ingredients. It is conceivable that the used material is aerosolizable by heat and produces preferably vapour upon heating. Further it is conceivable that the aerosol former comprises at least one of the mentioned ingredients and is preferably mixed with tobacco particles to form the aerosolizable agent. Preferably the tobacco particles are mixed with the aerosol former to form a preferably homogeneous mixture. Preferably the mixture of the aerosol former and the tobacco particles forms the aerosolizable agent. Also preferably the aerosolizable agent may further comprise at least one flavour for altering the natural tobacco taste and providing different taste experiences to the customer. Flavours can be obtained by extraction from natural source or by chemical synthesis. Non-limiting examples of sources of flavours includes menthol, mint, coffee, tea, cinnamon, ginger, lemon, water melon, berry, thyme, etc.

**[0017]** In a preferred embodiment the aerosolizable agent further comprises at least one of the following binder and/or gelling agents:

- gum, such as gellan gum, xanthan gum, arabic gum, locust bean gum and/or agar agar,
- cellulose derivatives such as hydroxypropyl-methyl-cellulose (HPMC), hydroxypropyl cellulose (HPC), carboxymethyl cellulose (CMC), hydroxyethyl cellulose, methyl cellulose (MC), or ethyl cellulose,
- polysaccharides such as starches,
- organic acids such as alginic acid,
- conjugate base salts of organic acids such as sodium-alginate, agar, or pectins.

**[0018]** It is conceivable that each of the binder and/or gelling materials can be used alone. Further it is conceivable that at least two of the materials can be combined. Preferably, also materials can be used which are mentioned in the substance groups of the above-mentioned materials. The binder material is preferably used as an ingredient to thicken the consistency of the vapour generating component. Thereby the vapour generating material preferably has a firmer consistency and preferably does not flow directly into the filter material of the aerosol generating article and/or into the aerosol generating device upon dissolving the shell of the tobacco article.

**[0019]** Preferably, the tobacco particles themselves can be used as a binder, whereby it is conceivable that they must have a special particle size for such a function. Preferably, the mixing ratio between vapour generating material and tobacco particles must also be correct so that the tobacco particles can bind the vapour generating material.

**[0020]** Preferably, the aerosol former, the binder and the tobacco particles are mixed in a certain ratio to obtain the aerosol former. A preferred mixture for the aerosolizable agent comprises 13% cellulose, 14% carrageenan, 12% polypropylene glycol and 61% tobacco material. It is conceivable that the mixture comprises 10-15% cellulose, 10-20% carrageenan, 10-20% polypropylene glycol and 60-70% tobacco material.

**[0021]** Another preferred mixture for the aerosolizable agent comprises 11% gellan gum, 10% alginate, 12% polypropylene glycol and 67% tobacco material. It is conceivable that the mixture comprises 10-20% gellan gum, 5-15% alginate, 10-20% polypropylene glycol and 60-70% tobacco material.

**[0022]** It is conceivable that the aerosolizable agent is enclosed by a shell, wherein the shell is preferably decomposable by heat. It is further conceivable that the shell is also aerosolizable by heat. This would minimize waste production compared to shells and or capsules which are replaced.

**[0023]** In a preferred embodiment the shell comprises a hydrocolloidal material which has a melting point between 55°C to 100°C, more preferably between 60°C to 90°C and most preferably between 60°C to 80°C.

**[0024]** It is conceivable that the shell can also be dissolvable at various other temperatures. Preferably the temperature at which the shell is dissolvable matches the heating temperature of the aerosol generating device in which the tobacco product is used.

**[0025]** In a preferred embodiment the shell comprises at least one of the following hydrocolloidal materials:
Alginate, cellulose, gelatin, carrageenan, gelan gum, guar gum, arabic gum, xanthan gum, pectin and/or combinations the materials.

**[0026]** It is conceivable that each of the shell materials can be used alone. Further it is conceivable that at least two of the materials can be combined. Preferably, also materials can be used which are mentioned in the substance groups of the above-mentioned materials. It is

conceivable that the shell also comprises water as an ingredient.

**[0027]** A preferred mixture for the shell comprises 80% pectin and 20% water. It is conceivable that the mixture for the shell comprises 70-90% pectin and 10-30% water. Preferably the thickness of the shell is 10 microns. It is conceivable that the thickness of the shell depends on the used shell material and/or mixture. Also preferably, the thickness of the shell is also based on the plastic formability of the aerosolizable agent.

**[0028]** In a preferred embodiment the tobacco product comprises at least one non-tobacco flavour. Preferably the non-tobacco flavour is mixed within the aerosolizable agent. It is also conceivable that the tobacco product comprises various non-tobacco flavours. Preferably the tobacco product comprises a synthetic tobacco flavour or a tobacco syrup such as described in co-pending patent application no. PCT/EP2020/081767 to enhance the taste of the tobacco particles.

**[0029]** In a preferred embodiment the aerosol former comprises a semi-liquid and/or pasty consistency. It is conceivable that the consistency of the aerosol former depends on the amount of binding and/or gelling material which is mixed with the vapour generating component. Preferably the mixing of the aerosol former and the tobacco particles also leads to a semi-liquid and/or pasty consistency of the aerosolizable agent. It is conceivable that the tobacco particles function as a binder by having such a small particle size that combining them with the aerosol former results in a pasty form of the aerosolizable agent.

**[0030]** In an embodiment the tobacco product comprises particles, preferably metal particles, which generate heat on contact with an electromagnetic and/or induction field. Preferably, these particles are not harmful to health and also preferably they don't affect the taste of the tobacco product. Preferably, these particles are not consumed and remain after use of the tobacco product. It is conceivable that the aerosol generating device for using the tobacco product generates an induction field to heat the tobacco product. Preferably this induction field only exists in the inside of the device and very preferably only inside the heating section of the device.

In a preferred embodiment of the device it is conceivable that at least the body of the device is made of a material which does not interact with the induction field, preferably as few parts of the device as possible are affected by an induction field to minimize losses and/or heating of unintended parts. It is conceivable that due to the induction field, the tobacco product is also heatable from the inside. This leads to a more even heating of the tobacco product compared to just heating it from the outside.

**[0031]** In a preferred embodiment, the tobacco product can be used in an aerosol generating article, wherein the aerosol generating article comprises at least one tobacco section and at least one filter section with a filter. Preferably the aerosol generating article is an aerosol generating article for an aerosol generating device for generating an inhalable aerosol when heated, wherein the article comprises at least one tobacco section and preferably also a filter section. It is conceivable that the aerosol generating article further comprises a cavity, wherein the tobacco product is arranged inside the cavity. It is conceivable multiple tobacco products are arranged inside the cavity.

**[0032]** In a preferred embodiment, the cavity of the aerosol generating article is arranged inside the filter section, preferably inside the filter. It is conceivable that the aerosol generating article comprises multiple cavities, wherein each cavity houses at least one tobacco product. The cavity may be formed by a wrapper and/or paper member rolled to form a hollow tube into which the tobacco product is housed.

**[0033]** In another embodiment, the tobacco product is positioned in the tobacco section of the aerosol generating article comprising tobacco substrate. Preferably the tobacco substrate surrounds the tobacco product. The tobacco substrate may comprise randomly oriented tobacco strands or shreds or gathered tobacco sheets. The substrate generally contains tobacco predominantly made up from tobacco leaf (or lamina) and/or stem and/or reconstituted tobacco. The substrate generally comprises an aerosol former. The aerosol former is generally of at least 5%, e.g. between 5 and 20% of the tobacco substrate. The tobacco strands or shreds may be obtained by cutting or shredding reconstituted tobacco sheets obtained by paper forming, extrusion or casting. In the cast sheet process, tobacco is ground up into a fine powder and mixed with water, binders, additives, humectants and optional wood pulp fibres. The slurry of these elements is 'cast' or poured out onto a surface to form a thin film and is then heated and dehydrated to produce a reconstituted tobacco sheet. In the paper making process, tobacco is refined and extracted with water. The water-insoluble pulp is separated and further refined to a desired consistency and formed into a mat, which is then dried to provide a reconstituted tobacco sheet.

**[0034]** In another embodiment, the tobacco product is positioned in the filter tow of the filter or a filter segment of the filter.

**[0035]** In a preferred embodiment the tobacco product can be used in an aerosol generating device comprising a cavity which is able to accept the tobacco product and designed to heat the tobacco product with a heating element to a temperature at which the shell of the tobacco product is decomposable and the tobacco particles and aerosol former of the aerosolizable agent are aerosolizable. Preferably the heating element heats the cavity in which the tobacco article is arranged and thereby also heats the tobacco product. Preferably the tobacco product is used together with an aerosol generating article in the device. The device would then preferably heat at least a part of the aerosol generating article. It is conceivable that during usage of the device the resulting aerosol from heating the aerosol generating article gets at least partially in contact with the tobacco product and thereby

heats the tobacco product.

**[0036]** It is conceivable that the tobacco product can be arranged in an aerosol generating device together with an aerosol generating article, wherein the tobacco product is not arranged inside the aerosol generating article. Preferably the tobacco product is then arranged in the cavity of the aerosol generating device next to the aerosol generating article.

**[0037]** Preferably the aerosol generating device comprises a heating blade instead and/or in addition to the heated cavity. Preferably the heating blade is at least partially insertable into the tobacco product. It is conceivable that by using the tobacco product combined with an aerosol generating article, the heating blade is inserted into the aerosol generating article. Preferably the heating blade thereby is also at least partially inserted into the tobacco product itself.

**[0038]** The objective is also reached by a method for generating an inhalable aerosol with a tobacco product according to the invention, wherein the tobacco product is first arranged inside the cavity of the aerosol generating device, and afterwards the cavity is heated to a temperature at which the aerosolizable agent releases an inhalable aerosol. By using the tobacco product with an aerosol generating article, the tobacco product is preferably arranged inside the aerosol generating article before the generating article is arranged at least partially inside the aerosol generating article.

**[0039]** In a preferred embodiment the shell of the tobacco product is first decomposed by heat, before the inhalable aerosol which is released by the aerosolizable agent dissipates into an aerosol outlet of the article and/or device. It is conceivable that the aerosol former of the aerosolizable agent generates vapour, wherein the tobacco particles preferably cause a natural taste experience for a consumer. It is conceivable that the shell of the tobacco product decomposes slower by using it with an aerosol generating product, because the heat of aerosol from the aerosol generating product heats the tobacco product slower than by the direct heat of the heated cavity.

**[0040]** It is conceivable that the tobacco product can also be crushed by a consumer before the shell is decomposed by heat. It is also conceivable that the tobacco product is crushed by the heating blade, before it is heated.

**[0041]** The compositions in percentages as described in the present application are given in mass related proportions unless mentioned otherwise.

**[0042]** In the present patent application, the mean diameter D90 is determined by laser diffraction with a particle size analyzer Malvern 3000 using a dry dispersion method and software v3.62.

**[0043]** Further advantages and embodiments according to the invention are illustrated in the attached drawing.

**[0044]** Herein show:

Fig. 1 a tobacco product according to the invention

Fig. 2 an aerosol generating article with a tobacco product

Fig. 3 an aerosol generating device with a tobacco product

Fig. 4 an aerosol generating device with an aerosol generating article

Fig. 5 an aerosol generating article with a tobacco product

Fig. 6 an aerosol generating article with a tobacco product

**[0045]** Fig. 1 illustrates a tobacco product 2 according to the invention, wherein the tobacco product 2 comprises the aerosolizable agent 3, the shell 4, the tobacco particles 5 and the aerosol former 6. The form of the tobacco product 2 is shaped by the shell 4 and is in fig. 1 illustrated as a capsule with a cylindrically shaped body with two round ends. It is conceivable that the shape of the tobacco product 2 can also comprise a ball shape, or any other possible shape for capsules. As can be seen from fig. 1, the shell 4 encloses the aerosolizable agent 3 and thereby also the tobacco particles 6 and the aerosol former 6. Preferably the tobacco particles 5 are evenly distributed inside the aerosol former 6.

**[0046]** Fig. 2 illustrates an aerosol generating article 7 with a tobacco product 2 according to the invention. The aerosol generating article 7 comprises a tobacco section 11 and a filter section 9. In the embodiment in fig. 2, the tobacco section 11 as well as the filter section 9 comprise a cavity 8 in which a tobacco product 2 according to the invention can be arranged. The cavity 8 of the tobacco section may simply be formed as a void in the tobacco substrate of the tobacco section 11 or as a void in the filter tow of the filter section 9. Preferably only one tobacco product 2 is arranged inside the aerosol generating article 7, either inside a cavity 8 in the tobacco section 11, or in the filter section 9. It is conceivable that two tobacco articles 2 can be arranged inside the aerosol generating article 7 according to fig. 2.

**[0047]** Preferably, if two tobacco products 2 are arranged inside the aerosol generating article 7, one tobacco product 2 is arranged inside the cavity 8 in the tobacco section 11 of the article 7 and the other tobacco product 2 inside the cavity 8 in the filter section 9 of the article 7. Preferably also multiple tobacco products 2 can be arranged in each cavity 8, wherein the cavities 8 are then preferably big enough to house at least two tobacco products 2.

**[0048]** By using the aerosol generating article 7 in an aerosol generating device 1 with a heating blade 16 (see fig. 2), preferably the cavity 8 which is arranged inside the tobacco section 11 of the article 7 has at least partially contact with the heating blade 16 of the device 1.

**[0049]** In the embodiment of fig. 2 there is only one tobacco product 2 arranged inside the aerosol generating article 7, wherein the tobacco product 2 is arranged inside the filter section 9 of the article 7. The tobacco product 2 inside the filter section 9 of the aerosol generating ar-

ticle 7 comprises the shell 4, the aerosolizable agent 3, the tobacco particles 5 and the aerosol former 6. By using the embodiment of an aerosol generating article according to fig. 2 in an aerosol generating device 1 with a heating blade 16, the tobacco product 2 preferably does not get in contact with the heating blade 16.

**[0050]** In other embodiments as illustrated in figures 5 and 6, the tobacco product 2 is arranged in the cavity 21 of a hollow tubular segment 20 positioned between filter section 9 and the tobacco section 11. The hollow tubular segment 20 can be formed as a rigid paper tube attached to the tobacco section 11 and filter section 9 by an outer wrapper. In the mode of figure 5, the tobacco product 2 comprises an elongated shell 4 containing the aerosolizable agent 3.

**[0051]** The tobacco product 2 can be preferably affixed to the interior of the hollow tubular segment 20 such as by glue or a mechanical anchor so that its position is accurately defined.

**[0052]** In an alternative, the axial dimension of the hollow tubular segment is substantially equal to the length of the tobacco product 2, such that the tobacco product 2 is maintained by the tobacco section 11 at one end and by the filter section 9 at the other end.

**[0053]** The relative position of the tobacco product 2 in the article 7 can be determined to ensure the shell 4 is heated at a proper temperature and the aerosolizable agent 3 is released. Such release can be delayed compared to the time the aerosol 13 starts to be released from the tobacco section 11. As a result, the possible reduction of the tobacco taste from the tobacco section 11 can be compensated at least partially by the release of flavour from the tobacco product 2. Overall, the flavour of tobacco in the aerosol 13 can be evened or modulated as desired during the vaping period. In another alternative, the cavity 21 is longer than the tobacco product 2 and the tobacco product 2 is free to move in the cavity 21.

**[0054]** In the embodiment of figure 6, a plurality of smaller tobacco products 2 is provided in the hollow tubular segment 20 thereby forming a mass of beads. The largest size of the tobacco beads may e.g. of about 1-2 mm.

**[0055]** Figure 3 illustrates an aerosol generating device 1 with a tobacco product 2 according to the invention. The aerosol generating device 1 comprises a heating section 15 with at least one heating element 12, a cavity 10 for housing a tobacco product 2 and/or an aerosol generating article 7. In the embodiment in fig. 3 the aerosol generating device 1 comprises one tobacco product 2, wherein the tobacco product 2 is arranged inside the cavity 10 and the cavity 10 is surrounded by the heating elements 12. Preferably also multiple tobacco products 2 can be arranged inside the cavity 10.

**[0056]** The aerosol generating device 1 preferably comprises a mouth piece 14 which is attached to the heating section 15 of the device 1 and which acts as an aerosol 13 outlet of the device. The mouthpiece 14 thereby acts as a fluid connection from the heating section 15 toward a consumer who can inhale the inhalable aerosol 13 from the mouthpiece 14.

**[0057]** The inhalable aerosol 13 is preferably generated inside the heating section 15, wherein the heating elements 12 inside the heating section 15 heat the cavity 10 and thereby also the tobacco product 2 and/or an aerosol generating article 7 inside the cavity 10.

**[0058]** Upon heating, the shell 4 of the tobacco product 2 decomposes and the aerosol agent 3 which comprises the aerosol former 6 and the tobacco particles 5, aerosolises. The resulting inhalable aerosol 13 flows towards the mouthpiece 14 to be consumed by a consumer.

**[0059]** Preferably the heating elements 12 are electrically powered. It is conceivable that the heating element 12 is at least one hot wire which produces thermal energy from electricity and thereby functions due to direct heating. Also preferably the heating elements 12 can be at least one indirect heating element 12, wherein the heating element thereby preferably comprises an induction generator which generates an induction field. It is conceivable that in an embodiment with an induction generator, the at least one tobacco product 2 needs to comprise a ferromagnetic compound which generates heat upon interacting with the induction field. It is also conceivable that the heating method can be switched according to whether there is a tobacco product 2, or an aerosol generating article 7 inside the cavity.

**[0060]** In a further embodiment of figure 3, the tobacco product 2 may also occupy only a first part of the heating cavity 10 and a separate aerosol generating article 7 (e.g. without tobacco product 2) can occupy a second part of the heating cavity 10. The tobacco product 2 and aerosol generating article 7 may be inserted in the cavity 10 in a row. For example, the tobacco product 2 may be inserted first into the cavity 10 followed by the aerosol generating article 7 or the reverse order.

**[0061]** Figure 4 illustrates a further embodiment of an aerosol generating device 1 without a mouthpiece 14. The device 1 receives an aerosol generating article 7 embedding a tobacco product 2 according to the invention. It can be seen that the tobacco product 2 is arranged inside an aerosol generating article 7 according to fig. 2. The aerosol generating device 1 further comprises a cavity 10 for accepting at least one tobacco product 2 and/or an aerosol generating article 7.

**[0062]** The device 1 also preferably comprises a heating section 15, wherein the heating section comprises at least one heating element 12, a heating blade 16 and the cavity 10, wherein the heating blade 16 is preferably arranged inside the cavity 10. It is conceivable that the tobacco product 2 and/or an aerosol generating article 7 can at least partially be arranged inside the cavity 10, wherein in the embodiment of the device 1, the tobacco product 2 and/or an aerosol generating article 7 would get in contact with the heating blade 16 inside the cavity 10.

**[0063]** Preferably the heating blade 16 provides additional heating power to the tobacco product 2 and/or an

aerosol generating article 7. It is conceivable that only the heating blade 16 heats the tobacco product 2 and/or an aerosol generating article 7 and wherein no further heating element 12 is needed. It is also conceivable that the heating blade 16 is just an optional feature and can be dismantled by a consumer.

**[0064]** In the example of figure 4, it is also conceivable that only the external heating element 12 is provided.

**[0065]** Preferably, when an aerosol generating article is inserted into the cavity, the heating blade is at least partially inserted into the aerosol generating article. It is conceivable that the heating blade 16 thereby would at least partially get in contact with a tobacco product 2 inside the cavity 8 in the tobacco section 11 of the aerosol generating article 2. Preferably the heating blade 16 does not get in contact with a tobacco product 2 inside the cavity 8 in the filter section 11 of the aerosol generating article 2.

**[0066]** It is understood that by heating the aerosol generating article 7 with the heating blade 16 and/or heating elements 12, the resulting inhalable aerosol 13 exits the device 1 through the filter section 9 of the aerosol generating article 7 an thereby gets in contact with the tobacco product 2 inside the filter section 9. Preferably the inhalable aerosol 13 heats the shell 4 of the tobacco product 2, wherein the shell 4 thereby decomposes and releases the aerosolizable agent 3 into the filter section 9.

**[0067]** The aerosol generating article 7 of figures 5 and 6 with a hollow tubular segment 20 and the cavity 21 may be used as well in the device of figure 4.

**[0068]** It is understood that the embodiments of the devices 1 in fig. 3 and fig. 4 are shown as examples, whereby each of the devices can also contain the technical advantages from the other embodiment.

**[0069] Reference signs**

| | |
|---|---|
| 1 | aerosol generating device |
| 2 | tobacco product |
| 3 | aerosolizable agent |
| 4 | shell |
| 5 | tobacco particles |
| 6 | aerosol former |
| 7 | aerosol generating article |
| 8 | cavity inside aerosol generating article |
| 9 | filter section of aerosol generating article |
| 10 | cavity inside aerosol generating device |
| 11 | tobacco section of aerosol generating article |
| 12 | heating element of aerosol generating device |
| 13 | inhalable aerosol |
| 14 | mouthpiece of aerosol generating device |
| 15 | heating section of aerosol generating device |
| 16 | heating blade in aerosol generating device |
| 20 | hollow tubular segment |
| 21 | cavity in hollow tubular segment |

**Claims**

1. Tobacco product (2) for an aerosol generating device (1), wherein the tobacco product (2) comprises an aerosolizable agent (3) and a shell (4), the aerosolizable agent (3) being encapsulated by the shell (4), wherein the shell (4) comprises a hydrocolloidal material, is fluid tight at an ambient storage temperature of the tobacco product (2) and decomposable by heat,
**characterized in that**,
the aerosolizable agent (3) comprises tobacco particles (5) and an aerosol former (6) which are aerosolizable by heat.

2. Tobacco product (2) according to claim 1,
**characterized in that**,
the shell has a maximum thickness of 100 microns, preferably between 1 and 40 microns and most preferably between 1 and 10 microns.

3. Tobacco product (2) according to claim 1 or 2,
**characterized in that**,
wherein the tobacco particles (5) have a mean particle size (D90) equal to or less than 100 microns, preferably equal to or less than 50 microns and most preferably equal to or less than less than 30 microns.

4. Tobacco product (2) according to at least one of the preceding claims, **characterized in that**,
the aerosol former (6) comprises at least one of the following ingredients:

   - polyhydric alcohols or diols such as polypropylene glycol (PG), triethylene glycol, 1-3-butanediol and/or glycerin
   - esters of polyhydric alcohols such as glycerol mon-, di- or triacetate triethyl citrate or myristates including ethyl myristate and/or isopropyl myristate
   - aliphatic esters of mono-, di- or polycarboxylic acids, such as methyl stearate, dimethyldodecanedioate and/or dimethyl tetradecanedioate

5. Tobacco product (2) according to claim 4,
**characterized in that**,
the aerosol aerosolizable agent (3) further comprises at least one of the following binder and/or gelling agents:

   - gum, such as gellan gum, xanthan gum, arabic gum, locust bean gum and/or agar agar
   - cellulose derivatives such as hydroxypropylmethylcellulose (HPMC), hydroxypropyl cellulose (HPC), carboxymethyl cellulose (CMC), hydroxyethyl cellulose, methyl cellulose (MC), or ethyl cellulose

- polysaccharides such as starches
- organic acids such as alginic acid
- conjugate base salts of organic acids such as sodium-alginate, agar, or pectins.

**6.** Tobacco product (2) according to at least one of the preceding claims,
**characterized in that**,

the shell (4) comprises a hydrocolloidal material which has a melting point of at least 50°C, preferably 60°C, and more preferably 70°C, and a maximum melting point of 100°C, preferably 90°C, and more preferably 80°C.

**7.** Tobacco product (2) according to at least one of the preceding claims,
**characterized in that**,
shell (4) comprises at least one of the following hydrocolloidal materials:

alginate, cellulose, gelatin, carrageenan, gelan gum, guar gum, arabic gum,
xanthan gum, pectin and/or combinations the materials.

**8.** Tobacco product (2) according to at least one of the preceding claims,
**characterized in that**,
the tobacco product (2) comprises at least one non-tobacco flavour and/or a tobacco flavour distinct from the tobacco powder.

**9.** Tobacco product (2) according to at least one of the preceding claims,
**characterized in that**,
the aerosol former (6) comprises a semi-liquid and/or pasty consistency.

**10.** Tobacco product (2) according to at least one of the preceding claims,
**characterized in that**,
the tobacco product (2) comprises particles, preferably metal particles, which generate heat on contact with an induction field.

**11.** Aerosol generating article (7) with a tobacco product (2) according to at least one of the preceding claims, wherein the aerosol generating article (7) comprises at least one tobacco section (11) and at least one filter section (9) with a filter (9a), and/or at least one hollow tubular element (20) between the tobacco section (11) and the filter section (9),
**characterized in that**,
the aerosol generating article (7) further comprises at least one cavity (8, 21), wherein the tobacco product (2) is arranged inside the cavity (8, 21).

**12.** Aerosol generating article (7) according to claim 11,
**characterized in that**,
the cavity (8) is arranged inside the filter section (9), preferably inside the filter (9a).

**13.** Aerosol generating device (1) for using a tobacco product (2) according to at least one of the preceding claims 1 -10,
**characterized in that**,
the aerosol generating device (1) comprises a cavity (10) which is configured to accept the tobacco product (2) and to heat the tobacco product by a heating element (12) to a temperature at which the shell is decomposed and the tobacco particles (5) and aerosol former (6) of the aerosolizable agent (3) are aerosolizable.

**14.** Method for generating an inhalable aerosol (13) with a tobacco product (2) according to one of the claims 1 -10,
**characterized in that**,
tobacco product (2) is first arranged inside the cavity (10) of the aerosol generating device (1), and afterwards the cavity (8) is heated to a temperature at which the aerosolizable agent (3) releases an inhalable aerosol (13).

**15.** Method for generating an inhalable aerosol (13) according to claim 14,
**characterized in that**,
the shell (4) of the tobacco product (2) is first decomposed by heat, before the inhalable aerosol (13) which is released by the aerosolizable agent (3) dissipates into an aerosol outlet of the device (1) or of an aerosol generating article (7).

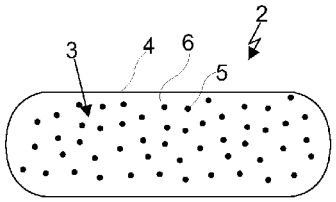


Fig. 1

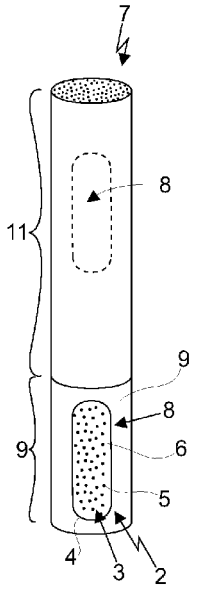


Fig. 2

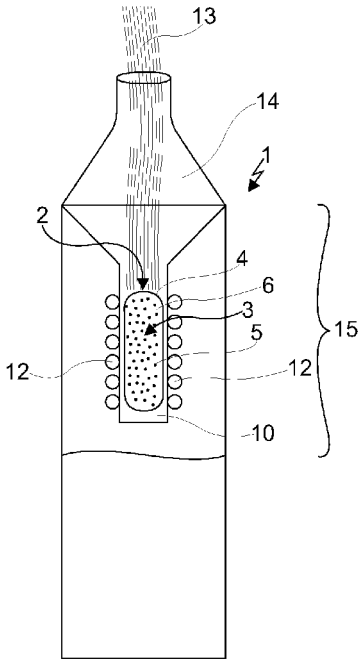


Fig. 3

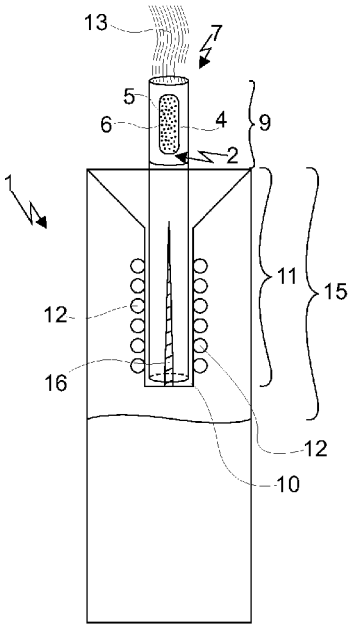


Fig. 4

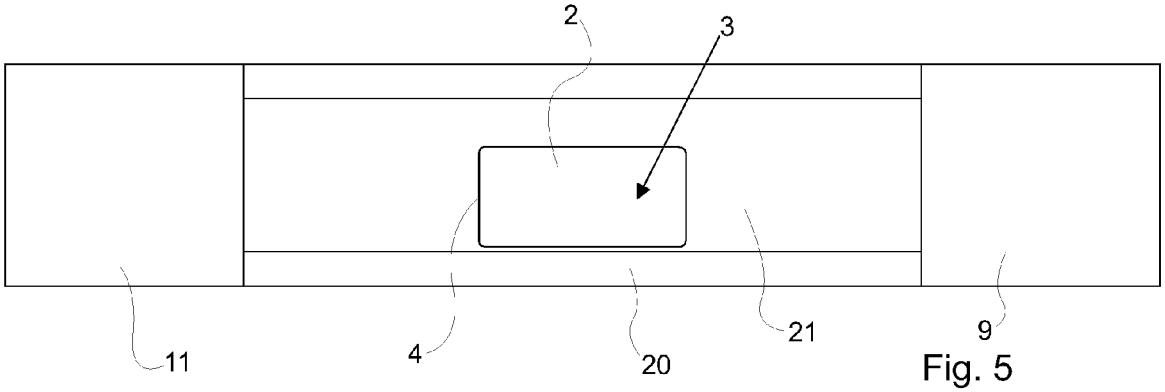


Fig. 5

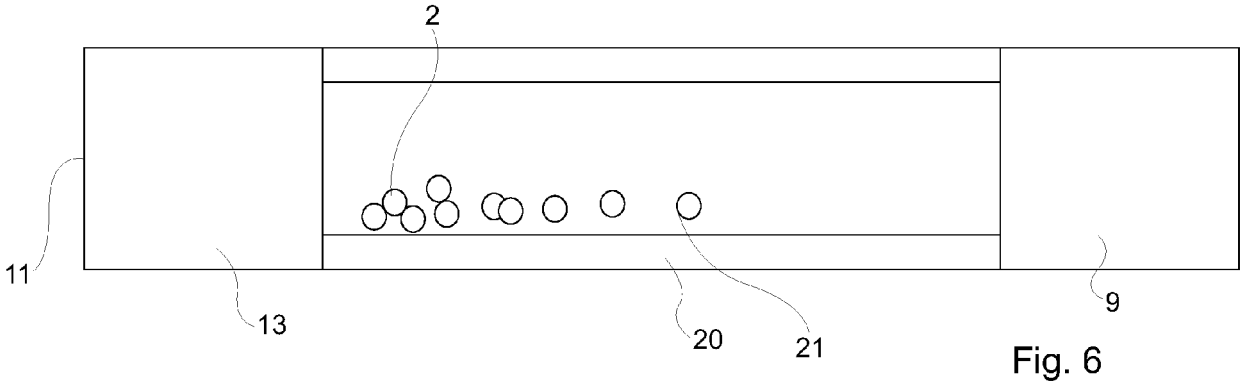


Fig. 6

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Application Number
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| Place of search | Date of completion of the search | Examiner |
|---|---|---|
| The Hague | 14 September 2021 | Villányi Kelemen, K |

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