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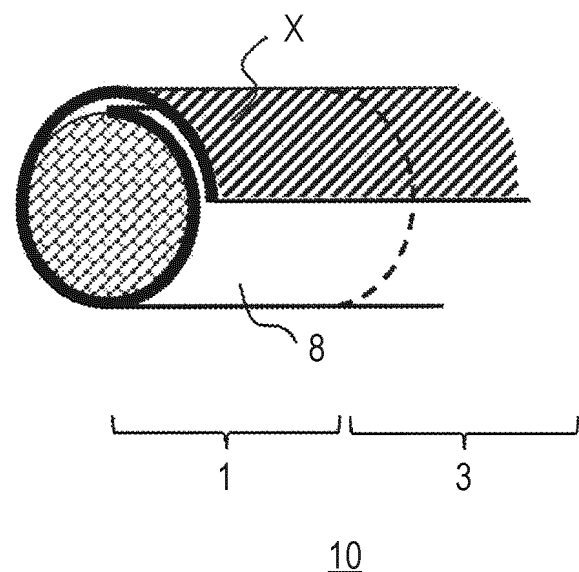
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(54) **NON-COMBUSTION HEATING TYPE FLAVOR INHALATION ARTICLE**

(57) A non-combustion heating type flavor inhalation article comprising a wrapping material for joining a tobacco rod and an adjacent member adjacent to the tobacco rod, wherein the wrapping material includes a tip paper having a CD direction that is substantially parallel to the longitudinal direction of the article, a region X in which the total basis weight of the wrapping material in the radial direction is 40-110 g/m² is present on the article, and the X occupies 20-100% of the circumferential area of the article.

Fig. 4



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Description

TECHNICAL FIELD

5 **[0001]** The present invention relates to a non-combustion heating type flavor inhalation article.

BACKGROUND ART

10 **[0002]** A flavor inhalation article includes a tipping paper that joins a tobacco rod and another member. Conventionally, tipping papers with various functions imparted have been proposed. For example, PTL 1 discloses a smoking article in which a tipping paper in the outermost layer is attachable/detachable. It is said that the attachable/detachable tipping paper can provide an appearance or a sensory change to the user. Further, PTL 2 discloses that a material or the like for imparting cushioning properties is wrapped two times around a mouthpiece.

15 CITATION LIST

PATENT LITERATURE

[0003]

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PTL 1: European Patent No. 2046153

PTL 2: U.S. Patent Application Publication No. 2015/0128968

SUMMARY OF INVENTION

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TECHNICAL PROBLEM

30 **[0004]** A non-combustion heating type flavor inhalation article generates an aerosol when a tobacco rod is heated. At this time, a tipping paper wrapped around the tobacco rod is deteriorated by heating. As a result, the non-combustion heating type flavor inhalation article is torn or broken, and the handleability is impaired in some cases. In view of such circumstances, an object of the present invention is to provide a non-combustion heating type flavor inhalation article that is excellent in handleability after heating.

SOLUTION TO PROBLEM

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[0005] The inventors have found that the above-described problem can be solved by setting the maximum value of the weight of a tipping paper per unit area on a non-combustion heating type flavor inhalation article to a specific range.

40 Aspect 1 A non-combustion heating type flavor inhalation article includes a wrapping material that joins a tobacco rod and an adjacent member adjacent to the tobacco rod. The wrapping material includes a tipping paper having a CD direction that is substantially parallel to a longitudinal direction of the article. A region X in which a total grammage in a radial direction of the wrapping material is 40 to 110 g/m² is present on the article. The X occupies a region of 20% to 100% in a circumferential direction of the article.

45 Aspect 2 In the non-combustion heating type flavor inhalation article according to aspect 1 or 2, the X occupies a region of 50% to 100% in the circumferential direction of the article.

Aspect 3 In the non-combustion heating type flavor inhalation article according to aspect 1 or 2, the X is a region in which one sheet of the tipping paper is wrapped so as to overlap in a direction perpendicular to a circumferential surface.

50 Aspect 4 In the non-combustion heating type flavor inhalation article according to aspect 3, a length in the circumferential direction of the tipping paper is 1.2 to 2.8 times a circumference of the non-combustion heating type flavor inhalation article.

Aspect 5 In the non-combustion heating type flavor inhalation article according to any one of aspects 1 to 4, the tipping paper is uncoated paper, or coated paper including a base paper layer and one or more coating layers provided on the base paper layer.

55 Aspect 6 In the non-combustion heating type flavor inhalation article according to aspect 1, 2, 4, or 5, the region X is constituted of the tipping paper and a reinforcing sheet disposed on an inner circumferential surface of the tipping paper.

Aspect 7 In the non-combustion heating type flavor inhalation article according to any one of aspects 1 to 6, the tipping

paper has a grammage of 55 g/m² or less.

Aspect 8 In the non-combustion heating type flavor inhalation article according to any one of aspects 1 to 7, a tensile strength in the CD direction of the tipping paper is 12 N/15 mm or more.

Aspect 9 In the non-combustion heating type flavor inhalation article according to any one of aspects 1 to 8, the region X is present across a joint portion between the tobacco rod and the adjacent member in the longitudinal direction.

ADVANTAGEOUS EFFECTS OF INVENTION

[0006] The present invention can provide a non-combustion heating type flavor inhalation article that is excellent in handleability after heating.

BRIEF DESCRIPTION OF DRAWINGS

[0007]

[Fig. 1] Fig. 1 is a diagram illustrating an aspect of a non-combustion type flavor inhalation article.

[Fig. 2] Fig. 2 is a diagram illustrating an aspect of a non-combustion type flavor inhalation system.

[Fig. 3] Fig. 3 is a diagram illustrating an outline of a breaking test.

[Fig. 4] Fig. 4 is a diagram illustrating a first aspect of wrapping.

[Fig. 5] Fig. 5 is a diagram illustrating the first aspect of the wrapping.

[Fig. 6] Fig. 6 is a diagram illustrating a second aspect of wrapping.

[Fig. 7] Fig. 7 is a diagram illustrating the second aspect of the wrapping.

DESCRIPTION OF EMBODIMENTS

[0008] The present invention will be described in detail below. In the present invention, "X to Y" includes X and Y that are end values thereof.

1. Non-combustion Heating Type Flavor Inhalation Article

[0009] A non-combustion heating type flavor inhalation article (hereinafter, also simply referred to as a "flavor inhalation article") according to the present embodiment includes a wrapping material that joins a tobacco rod and an adjacent member adjacent to the tobacco rod, and has a region X in which a total grammage in a radial direction of the wrapping material is 40 to 110 g/m² is present on the flavor inhalation article. The radial direction is a direction perpendicular to a circumferential surface. The cross section of the tobacco rod is preferably circular or elliptical, but may be non-circular such as polygonal or rounded polygonal. Even in a case where the cross-sectional shape of the tobacco rod is non-circular, the direction perpendicular to the circumferential surface is referred to as the radial direction for convenience. In the present embodiment, the wrapping material includes a tipping paper, and the tipping paper is wrapped so that a CD direction is substantially parallel to a longitudinal direction of the flavor inhalation article. The state being "substantially parallel" represents that the angle formed by the two directions is parallel or substantially parallel. For example, the angle may be 0° to 10°, or may be 0° to 5°. Generally, the strength in the CD direction of the tipping paper is not high, and hence the strength of a joint portion between the tobacco rod and the adjacent member is reduced. However, in the present embodiment, the region X is provided, and hence it is possible to impart sufficient strength to the joint portion.

[0010] The method of forming the region X is not limited. For example, the region X can be formed in such a way that one sheet of the wrapping material is wrapped so as to overlap in the direction perpendicular to the circumferential surface (first aspect). Alternatively, the region X can be formed by setting the grammage of a portion or the entirety of the wrapping material to 40 to 110 g/m² (second aspect).

[0011] The presence position of the region X in the longitudinal direction of the flavor inhalation article is not limited. For example, the region X may be present over the entirety in the longitudinal direction. Alternatively, the region X may be formed in a portion in the longitudinal direction so as to extend across the joint portion. In this case, the region X of the wrapping is preferably a region of 25% or more from the joint portion toward another end of the tobacco rod, and more preferably the entire region of the tobacco rod. Similarly, the region X of the wrapping is preferably a region of 25% or more from the joint portion toward another end of the adjacent member, and more preferably the entire region of the adjacent member. Usually, the tobacco rod is disposed on the most upstream side, but may be desirably disposed. Downstream refers to a direction toward a mouthpiece end, and upstream refers to a direction opposite thereto.

(1) First Aspect

[Region X]

[0012] A first aspect will be described with reference to Fig. 4. In the figure, reference sign 10 denotes a non-combustion type flavor inhalation article, reference sign 8 denotes a wrapping material, reference sign 1 denotes a tobacco rod, reference sign 3 denotes an adjacent member, and reference sign X denotes a region X. In this aspect, one sheet of the wrapping material 8 is wrapped so as to overlap in the direction perpendicular to the circumferential surface, thereby forming the region X. The region X occupies a region of 20% to 100% in the circumferential direction of the flavor inhalation article. The proportion of the area occupied by a certain region in the circumferential direction is hereinafter also referred to as an "occupancy rate". If the occupancy rate of the region X is less than the lower limit, the strength of the flavor inhalation article is insufficient. From this viewpoint, the lower limit value of the occupancy rate of the region X is preferably 50% or more. When the occupancy rate of the region X is not 100%, the total grammage in the radial direction of a region other than the region X (referred to as a region Y for convenience) is not limited. However, if the total grammage in the radial direction of the region Y is too high, the production is difficult, and the thermal conductivity may be reduced when the tobacco rod is heated from the outside. From this viewpoint, in an aspect, the total grammage in the radial direction of the region Y is less than 40 g/m². However, the total grammage in the radial direction of the region Y may be more than 110 g/m² within a range in which the above-described problem does not occur. When the total grammage in the radial direction of the region Y is more than 110 g/m², the occupancy rate of the region Y is preferably 1% to 20%, and the upper limit thereof is more preferably 10% or less.

[0013] Fig. 4 illustrates an aspect in which the region X occupies a region of about 1/4 of a circumferential area in the circumferential direction, that is, the occupancy rate of the region X is 25%. In the first aspect, the wrapping material 8 can be formed only of the tipping paper. The grammage of the tipping paper itself is adjusted to achieve the grammage of the region X. For example, when the region X is formed by the tipping paper having a grammage of x (g/m²) being wrapped n times, the grammage of the region X is defined as $n \cdot x$ (g/m²). Thus, x and n are selected so that $n \cdot x$ is a desired value. However, the value n here is an integer, and when the number of wrapping times is represented by a decimal number such as 1.5, the integer is obtained by rounding up the fractional portion. Fig. 4 illustrates an aspect in which the tipping paper is wrapped two times. In this case, for example, a tipping paper having a grammage of 20 to 55 g/m² can be used.

[0014] The length in the circumferential direction of the tipping paper is selected so as to achieve the occupancy rate of the region X. For example, the length in the circumferential direction of the tipping paper is preferably 1.2 to 2.8 times the circumference of the flavor inhalation article, and the upper limit thereof is more preferably 2.2 times or less. When the length in the circumferential direction is 1.2 times, the region X formed by the tipping paper being wrapped two times extends over a region of about 20% of the entire circumference of the non-combustion heating type flavor inhalation article. In this case, the occupancy rate is 20%. This aspect is also referred to as 1.2-time wrapping. When the length in the circumferential direction is 2.2 times, the region in which the tipping paper is wrapped two times extends over a region of 80% of the entire circumference of the non-combustion heating type flavor inhalation article, and the remaining region of 20% of the entire circumference is a region in which the tipping paper is wrapped three times. The region wrapped three times can be used as a glue margin. When the region wrapped two times and the region wrapped three times have a grammage of 40 to 110 g/m², the occupancy rate of the region X is 100%.

[0015] The total grammage in the radial direction of the wrapping material in the region X (hereinafter, also simply referred to as a "grammage in the region X") is 40 to 110 g/m². If the grammage is less than the lower limit value, the strength of the flavor inhalation article is insufficient. In contrast, if the grammage exceeds the upper limit value, the production is difficult, and further, the thermal conductivity is reduced when the flavor inhalation article is heated from the outside.

[Tipping Paper]

[0016] The tipping paper is a paper that is wrapped around and joins a plurality of members. At this time, the CD direction of the tipping paper is substantially parallel to the longitudinal direction of the non-combustion heating type flavor inhalation article. The CD direction of the tipping paper is a direction perpendicular to a direction in which a paper material is conveyed in a papermaking process (MD direction). The tipping paper is preferably fixed with an adhesive. The adhesive is preferably applied to at least a terminal end in the circumferential direction of the tipping paper (see Fig. 5). In this case, the adhesive is preferably applied to the terminal end over an area in the direction perpendicular to the circumferential direction (the longitudinal direction of the non-combustion heating type flavor inhalation article).

[0017] As the tipping paper, paper usually used in the field can be used. The tipping paper may be uncoated paper or coated paper. The coated paper may be clear coated paper having a coating layer containing no pigment on base paper, or pigment coated paper having a pigment coating layer on base paper. From the viewpoint of forming the region X without impairing the workability during the wrapping, the grammage of the tipping paper in this aspect is preferably 55 g/m² or less, and more preferably 53 g/m² or less. The lower limit value of the grammage is preferably 20 g/m² or more, and more preferably 30 g/m² or more.

[0018] As described above, the strength in the CD direction of the tipping paper is generally lower than the strength in the

MD direction. However, by providing the region X, it is possible to provide a non-combustion heating type flavor inhalation article having excellent handleability after heating. The tensile strength in the CD direction of the tipping paper is preferably 12 N/15 mm or more, and more preferably 13 N/15 mm or more.

(2) Second Aspect

[0019] A second aspect will be described with reference to Fig. 6. The reference signs in the figure are the same as those in Fig. 4. In this aspect, one sheet of a wrapping material 8 is wrapped around a tobacco rod and an adjacent member. The method of forming a region X in the second aspect is not limited, and examples thereof include the following aspects.

1) A tipping paper having a grammage of 40 to 110 g/m² is wrapped one time.

[0020] As the tipping paper, the tipping paper described in the first aspect can be used, but the grammage is in the range of 40 to 110 g/m². The tipping paper may be uncoated paper, clear coated paper, or pigment coated paper having a pigment coating layer on base paper. In this case, the occupancy rate of the region X is 100%.

2) A wrapping material including a tipping paper and a reinforcing sheet disposed on the tipping paper is wrapped one time.

[0021] This aspect can be implemented by, for example, wrapping one time with a wrapping material in which a reinforcing sheet having a grammage of 50g/m² is bonded to a portion or the entirety of a tipping paper having a grammage of 30 g/m². In this case, the occupancy rate of the region X is adjusted based on the length in the circumferential direction of the reinforcing sheet. The material of the reinforcing sheet is not limited, but is preferably paper or a polymer sheet from the viewpoint of the handleability and the like. The reinforcing sheet is preferably disposed inside the circumferential surface. Fig. 7 illustrates an aspect in which a reinforcing material 9 is disposed on an inner circumferential surface of the tipping paper 7 to form the region X. In the figure, the occupancy rate of the region X is 25%.

(3) Tobacco Rod

[0022] Hereinafter, each member will be described with reference to Fig. 1. Fig. 1 illustrates an aspect of a non-combustion type flavor inhalation article. In the figure, reference sign 10 denotes a non-combustion type flavor inhalation article, reference sign 1 denotes a tobacco rod, reference sign W denotes a wrapper, reference sign 3 denotes an adjacent member (preferably a cooling member) adjacent to the tobacco rod, reference sign 5 denotes a mouthpiece, reference sign 52 denotes a filter, reference sign 54 denotes a center hole filter, reference sign 7 denotes a tipping paper, reference sign 8 denotes a wrapping material, and reference sign V denotes a ventilation. The aspect illustrated in Fig. 1 is also referred to as a non-combustion direct heating type flavor inhalation article because the tobacco material is heated. Fig. 1 (1) illustrates an aspect in which the wrapper W is a wrapping paper of the tobacco rod 1, and the wrapping material 8 is wrapped thereon. The CD direction of the tipping paper included in the wrapping material 8 is substantially parallel to the longitudinal direction of the non-combustion direct heating type flavor inhalation article. Fig. 1(2) illustrates an aspect in which the wrapper W is a wrapping material 8 that is wrapped around the tobacco rod 1 and the adjacent member 3. In this aspect, the CD direction of the tipping paper included in the wrapping material 8 is substantially parallel to the longitudinal direction of the non-combustion direct heating type flavor inhalation article. The orientation of the CD direction of the tipping paper 7 not included in the wrapping material 8 is not limited.

[0023] The tobacco rod is a member having a substantially circular pillar shape for generating an inhaling flavor component contained in a tobacco material. The tobacco rod includes a tobacco material and a wrapping paper (wrapper) wrapped around the tobacco material. The shape of the tobacco material to be filled in the wrapping paper is not limited, and examples thereof include a sheet, a cut sheet obtained by cutting the sheet to have a width of 0.8 to 1.2 mm, and a cut piece cut to have a width of 0.8 to 1.2 mm. The sheet may be gathered, folded, or spirally formed without being cut, and filled in a wrapping paper to obtain a tobacco rod. Alternatively, the sheet may be cut into strips, and these strips may be filled into a wrapping paper in a concentric manner or in such a manner that the longitudinal direction of the strips is parallel to the longitudinal direction of the tobacco rod to obtain a tobacco rod.

[0024] The filling density of the tobacco material is not particularly limited, but is usually 250 mg/cm³ or more, and preferably 320 mg/cm³ or more, from the viewpoint of securing the characteristics of the non-combustion type flavor inhalation article and imparting a good smoke taste. Also, the upper limit thereof is usually 800 mg/cm³ or less, and preferably 600 mg/cm³ or less. The length of the tobacco rod 1 is not limited, but is preferably 15 to 25 mm. The diameter thereof is not limited, but is preferably 6 to 8 mm.

[0025] The tobacco material may generate vapor upon heating. The heating temperature is not limited, but is about 250°C to 350°C. To promote generation of an aerosol, an aerosol source such as a polyol, e.g., glycerine, propylene glycol,

1,3-butanediol, etc., may be added to the tobacco material. The amount of the aerosol source to be added is preferably 5 to 50 wt%, and more preferably 10 to 30 wt%, relative to the dry weight of the tobacco material. In addition, a known flavoring agent and the like may be added to the tobacco material.

(3) Adjacent Member

[0026] The adjacent member 3 is a member adjacent to the downstream side of the tobacco rod 1. The downstream refers to the direction toward the mouthpiece end. Examples of the adjacent member include a cooling member for cooling the aerosol, a support member for increasing the strength of the entire article, and a mouthpiece (described later). The adjacent member 3 is preferably a cooling member.

[0027] The cooling member is a member for promoting aerosolization, for example, by cooling the inhaling flavor component and vapor generated in the tobacco rod 1. The cooling member may be a hollow paper tube. The paper tube is preferably constituted of a cardboard having a higher rigidity than the rigidity of the wrapping paper or the tipping paper. The paper tube may be provided with a ventilation V (perforation). Preferably, a plurality of ventilations are provided along the circumference of the paper tube. Also, the cooling member may be filled with a gathered sheet for increasing the heat exchange efficiency. The dimensions of the cooling member are not limited, but the length is preferably 15 to 25 mm, and the diameter is preferably 5.5 to 7.5 mm.

(4) Mouthpiece

[0028] The mouthpiece is a member constituting the mouthpiece end. In an aspect, the mouthpiece 5 includes the filter 52 and the center hole filter 54. As the filter 52 and the center hole filter 54, known filters can be used.

(5) Method of Producing Non-combustion Heating Type Flavor Inhalation Article

[0029] The non-combustion heating type flavor inhalation article can be produced by any method within a range not impairing the advantageous effect. For example, the non-combustion heating type flavor inhalation article can be produced by a method including a step of preparing the above-described members and wrapping the members with the above-described tipping paper.

2. Non-combustion Heating Type Flavor Inhalation System

[0030] The combination of the non-combustion heating type flavor inhalation article and a heating device is also referred to as a non-combustion heating type flavor inhalation system. Fig. 2 illustrates an aspect of the system. In the figure, reference sign 100 denotes a non-combustion type flavor inhalation system, reference sign 10 denotes a non-combustion type flavor inhaler, and reference sign 30 denotes a heating device including a heater. The heating device includes the heater, a housing, a power source, and the like.

[0031] The heating device 30 includes a body H1, a heater H2, a metal tube H3, a battery unit H4, and a control unit H5. The body H1 has a cylindrical recessed portion H6, and the heater H2 and the metal tube H3 are disposed at positions corresponding to the tobacco rod 1 inserted into the recessed portion H6. The heater H2 can be a heater using electric resistance, and the heater H2 performs heating with electric power being supplied from the battery unit H4 in response to an instruction from the control unit H5 that performs temperature control. The heat generated from the heater H2 is transferred to the tobacco rod 1 through the metal tube H3 having high thermal conductivity. Although the aspect in which the heating device 30 heats the tobacco rod 1 from the outside has been illustrated in the figure, the heating device 30 may heat the tobacco rod 1 from the inside. The heating temperature by the heating device 30 is not particularly limited, but is preferably 400°C or less, more preferably 150°C to 400°C, and further preferably 200°C to 350°C. The heating temperature indicates the temperature of the heater of the heating device 10.

[0032] The portion of the non-combustion heating type flavor inhalation article to be inserted into the heating device 10 preferably includes a portion or the entirety of the tobacco rod 1 or a joint portion between the tobacco rod 1 and the adjacent member 3. In this case, the non-combustion heating type flavor inhalation article preferably includes the wrapping material according to the present embodiment in the portion to be inserted into the heating device 10.

EXAMPLES

[Example 1]

[0033] A paper tube having a circumference of 22.3 mm and a length of 20 mm, and a paper tube having a circumference of 22.3 mm and a length of 40 mm were prepared and disposed so that their end faces were in contact with each other. A

tipping paper A (having a grammage of 37 g/m²) was prepared. The tipping paper A was cut to have a length of 45 mm and a width of 33.5 mm, and wrapped around the paper tubes 1.5 times so that the lengthwise direction of the tipping paper was parallel to the longitudinal direction of the paper tubes, thereby preparing a test piece (see Fig. 4). At this time, the CD direction of the tipping paper was made to be substantially parallel to the longitudinal direction of the test piece. The grammage of the region X was 74 g/m², and the occupancy rate of the region X was 50%.

[0034] The 20-mm paper tube that is the test piece was inserted into the heating device. The test piece was subjected to a smoking test using a smoking machine with the set temperature of the heating device set to 295°C. Specifically, the sample was automatically smoked using an automatic smoking machine (LM-1 manufactured by Borgwaldt KC Inc.) under the conditions of a smoking volume of 55.0 ml/sec, a smoking time of 2 sec/puff, and 9 puffs. At this time, the joint portion was heated. The smoked sample was cooled to room temperature and subjected to a breaking test. The outline of the test is illustrated in Fig. 3. In the figure, reference sign P denotes a plunger, reference sign B denotes a base, and reference sign J denotes a joint portion. The load and the like at break are presented in Table 1.

[Example 2]

[0035] A test piece was prepared and evaluated in the same manner as in Example 1, except that a tipping paper A having a length of 45 mm and a width of 50 mm was prepared and wrapped around the paper tubes 2.2 times. In this example, a region in which the tipping paper A was wrapped two times is present with an occupancy rate of 80%, and a region in which the tipping paper A was wrapped three times is present with an occupancy rate of 20%. The grammage of the region wrapped three times is 111 g/m², and hence does not correspond to the region X. Thus, in this example, the grammage of the region X was 74 g/m², and the occupancy rate of the region X was 80%.

[Example 3]

[0036] A tipping paper B (having a grammage of 48 g/m²) was prepared and cut into a size having a length of 45 mm and a width of 22.3 mm. A test piece was prepared and evaluated in the same manner as in Example 1, except that the paper tubes were wrapped 1.1 times using the tipping paper. In this example, a region in which the tipping paper B was wrapped one time is present with an occupancy rate of 90%, and a region in which the tipping paper B was wrapped two times is present with an occupancy rate of 10%. The grammage of the former region is 48 g/m², and the grammage of the latter region is 96 g/m², and thus both correspond to the region X. Thus, in this example, the grammages of the region X were 74 g/m² and 96 g/m², and the occupancy rate of the region X was 100%.

[Comparative Example 1]

[0037] A test piece was prepared and evaluated in the same manner as in Example 1, except that a tipping paper A having a length of 45 mm was prepared and wrapped around the paper tubes 1.1 times. The grammage of the region X was 74 g/m², and the occupancy rate of the region X was 10%.

[Table 1]

	Tipping paper		Length in circumferential direction (relative to circumference of article)	Grammage of region X g/m ²	Occupancy rate of region X %	Average load* N
	Type	Grammage g/m ²				
Comparative Example 1	A	37	1.1	74	10	2.243
Example 1	A	37	1.5	74	50	4.758
Example 2	A	37	2.1	74	80	5.428
Example 3	B	48	1.1	48, 96	100	2.722
*The number of samples: 3						

[0038] It is clear that the test pieces of the examples require a larger force for breaking than the test piece of the comparative example. The "average load" is the maximum load applied until the sample breaks, and the smaller the number, the faster the sample breaks, and the larger the number, the harder the sample breaks. When the examples and the comparative example are compared, the examples show higher values for the average load. Owing to this, it is clear

that the test pieces of the examples sufficiently exhibit the advantageous effect of suppressing breaking and bending.

REFERENCE SIGNS LIST

5 [0039]

1 tobacco rod
3 adjacent member, cooling member
5 mouthpiece

10

52 filter
54 center hole filter

15

7 tipping paper
8 wrapping material
9 reinforcing sheet
V ventilation
W wrapper

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A adhesive application region
10 non-combustion type flavor inhalation article
30 heating device
100 non-combustion type flavor inhalation system

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H1 body
H2 heater
H3 metal tube
H4 battery unit
H5 control unit
H6 recessed portion

30

H7 vent hole
P plunger
B base
J joint portion
PT paper tube

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Claims

1. A non-combustion heating type flavor inhalation article comprising a wrapping material that joins a tobacco rod and an adjacent member adjacent to the tobacco rod,

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wherein the wrapping material includes a tipping paper having a CD direction that is substantially parallel to a longitudinal direction of the article,
wherein a region X in which a total grammage in a radial direction of the wrapping material is 40 to 110 g/m² is present on the article, and

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wherein the X occupies a region of 20% to 100% in a circumferential direction of the article.

2. The non-combustion heating type flavor inhalation article according to claim 1, wherein the X occupies a region of 50% to 100% in the circumferential direction of the article.

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3. The non-combustion heating type flavor inhalation article according to claim 1 or 2, wherein the X is a region in which one sheet of the tipping paper is wrapped so as to overlap in a direction perpendicular to a circumferential surface.

4. The non-combustion heating type flavor inhalation article according to claim 3, wherein a length in the circumferential direction of the tipping paper is 1.2 to 2.8 times a circumference of the non-combustion heating type flavor inhalation article.

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5. The non-combustion heating type flavor inhalation article according to any one of claims 1 to 4, wherein the tipping paper is

uncoated paper, or

coated paper including a base paper layer and one or more coating layers provided on the base paper layer

- 5 **6.** The non-combustion heating type flavor inhalation article according to claim 1, 2, 4, or 5, wherein the region X is constituted of the tipping paper and a reinforcing sheet disposed on an inner circumferential surface of the tipping paper.
- 10 **7.** The non-combustion heating type flavor inhalation article according to any one of claims 1 to 6, wherein the tipping paper has a grammage of 55 g/m² or less.
- 15 **8.** The non-combustion heating type flavor inhalation article according to any one of claims 1 to 7, wherein a tensile strength in the CD direction of the tipping paper is 12 N/15 mm or more.
- 20 **9.** The non-combustion heating type flavor inhalation article according to any one of claims 1 to 8, wherein the region X is present across a joint portion between the tobacco rod and the adjacent member in the longitudinal direction

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Fig. 1

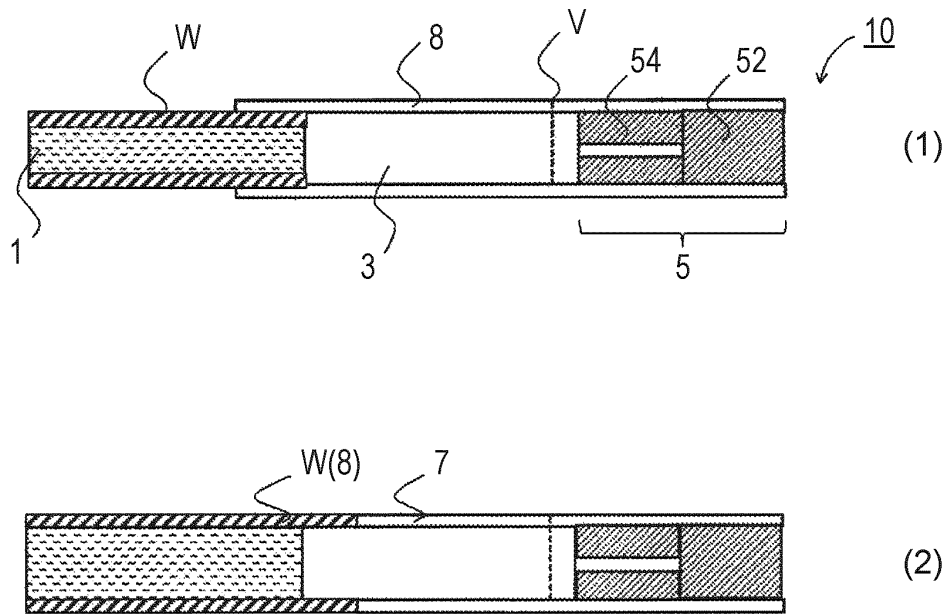


Fig. 2

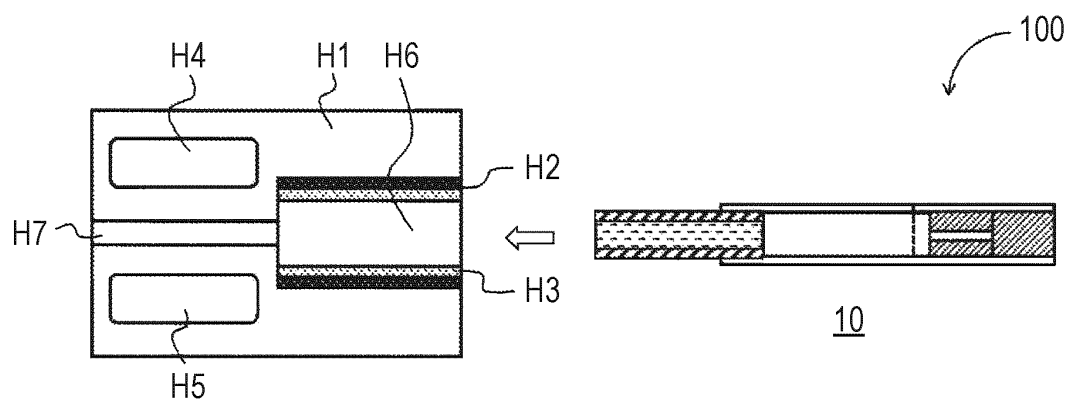


Fig. 3

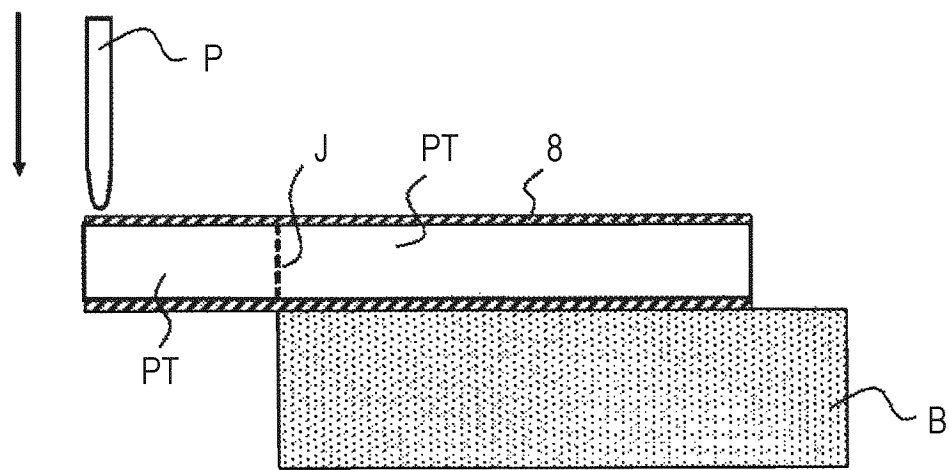


Fig. 4

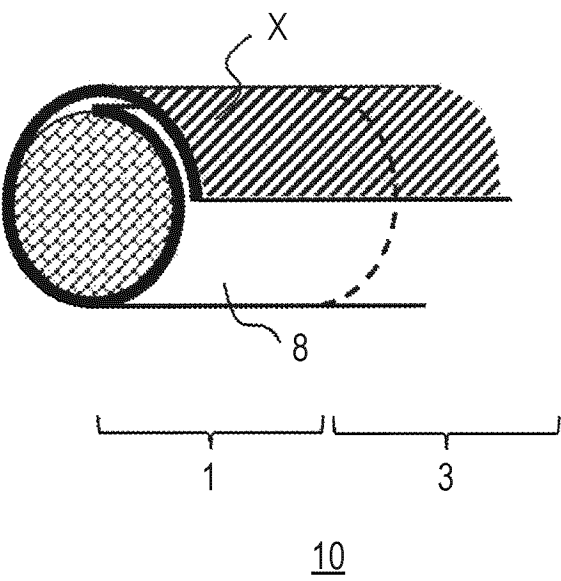


Fig. 5

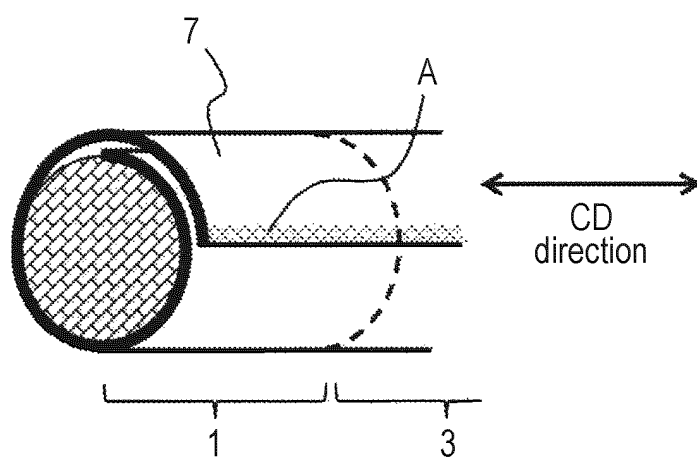


Fig. 6

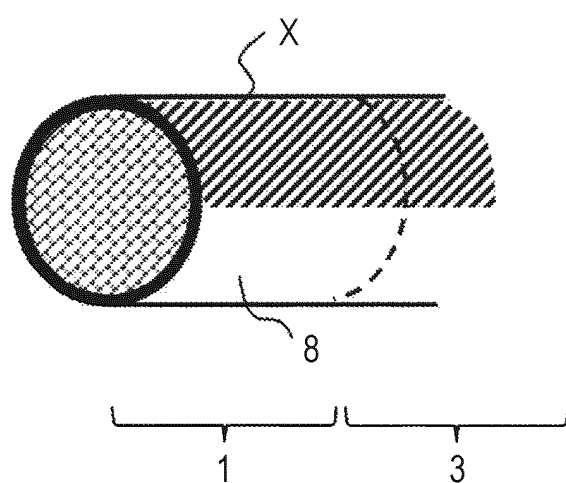
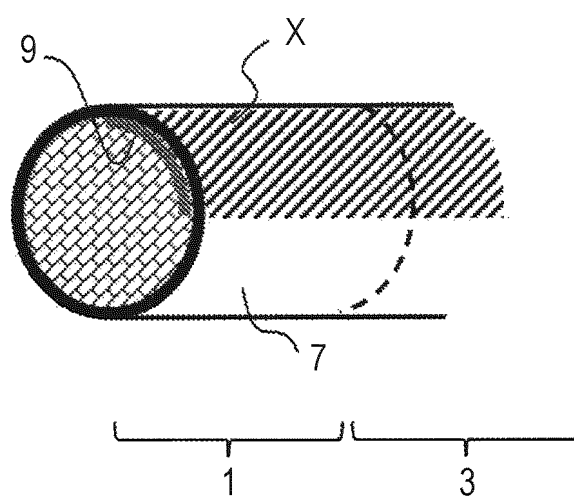


Fig. 7



INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2022/027208

A. CLASSIFICATION OF SUBJECT MATTER

A24D 1/20(2020.01)i
FI: A24D1/20

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A24D1/20

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

Published examined utility model applications of Japan 1922-1996
Published unexamined utility model applications of Japan 1971-2022
Registered utility model specifications of Japan 1996-2022
Published registered utility model applications of Japan 1994-2022

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 2021-511797 A (KT & G CORP) 13 May 2021 (2021-05-13) paragraphs [0025]-[0074], fig. 1-3	1-9
Y	JP 2019-537441 A (JT INTERNATIONAL SA) 26 December 2019 (2019-12-26) paragraph [0056], fig. 4	1-9
Y	JP 2017-093297 A (JAPAN TOBACCO INC) 01 June 2017 (2017-06-01) paragraph [0029]	3-9
Y	WO 2013/132618 A1 (JAPAN TOBACCO INC) 12 September 2013 (2013-09-12) paragraph [0025]	5-9
Y	WO 2014/034620 A1 (JAPAN TOBACCO INC) 06 March 2014 (2014-03-06) paragraph [0059]	5-9

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

* Special categories of cited documents:	"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
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"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)	"&" document member of the same patent family
"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	

Date of the actual completion of the international search

03 August 2022

Date of mailing of the international search report

30 August 2022

Name and mailing address of the ISA/JP

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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

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5	Patent document cited in search report	Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
10	JP 2021-511797 A	13 May 2021	US 2021/0030056 A1 paragraphs [0024]-[0077], fig. 1-3 KR 10-2020-0061099 A CN 111629611 A	
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Form PCT/ISA/210 (patent family annex) (January 2015)

REFERENCES CITED IN THE DESCRIPTION

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