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(54) **CIGARETTE HOLDER AND CIGARETTE**

(57) A cigarette holder is provided according to the present application, in which an impeller stops rotating just after the suction is stopped for 1 to 2.5 seconds, and an obvious vibration feel is generated when the impeller is rotating. The technical solution of a cigarette holder according to the present application includes: the cigarette holder is a ternary composite holder, including a primary filter holder section, a filter and a secondary filter holder section in the listed sequence. The filter includes a shell (3) and an impeller arranged inside the shell (3), the impeller includes a central shaft (1) and a plurality of blades (2) arranged on the central shaft (1). The extension line of the central shaft (1) extends toward the primary filter holder section and the secondary filter holder section. The blade (2) is composed of a front end portion (21) and a rear end portion (22) arranged front and back along a rotation track, and the front end portion (21) is heavier than the rear end portion (22).

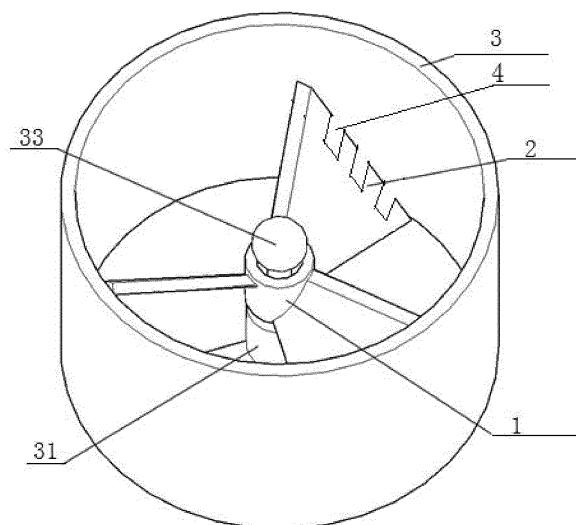


Figure 4

Description

FIELD

[0001] The present application relates to the technical field of cigarettes, and more particularly to a cigarette holder. The present application further relates to a cigarette including the cigarette holder.

BACKGROUND

[0002] The style and characteristic of Chinese-style cigarettes have always been the focus of the cigarette industry. The Chinese-style cigarette is a cigarette which can satisfy the present and potential consumption demands of the Chinese cigarette customers, having a unique aroma style and flavor characteristic, and possessing core techniques. Strong aroma, low tar and less harm have always been the core object of the cigarette industry.

[0003] The raw material resource and the tobacco blend formulation design play a role in the unique aroma style and flavor characteristic of the Chinese-style cigarette. And the aroma style and the flavor characteristic with Chinese features make the Chinese-style cigarette distinctly differ from the British-style, the American-style and the Japanese-style cigarettes in tar content. Customers are used to a strong aroma and flavor and are unaccustomed to a low tar flavor, and presently without adding other spices to supplement the flavor, a low concentration flavor caused by a low tar cigarette is in contradiction with the strong flavor that customers are used to. Tar decrease and harm reduction of the cigarettes are urgent demands and trends whether in the aspect of the development of the tobacco industry or in the aspect of customers' own health demands.

SUMMARY

[0004] A cigarette holder is provided according to the present application, in which an impeller stops rotating just after the suction is stopped for 1 to 2.5 seconds, and an obvious vibration feel is generated when the impeller is rotating.

[0005] The technical solution of the cigarette holder includes:

the cigarette holder is a ternary composite holder, including a primary filter holder section, a filter and a secondary filter holder section in a listed sequence;

the filter includes a shell and an impeller arranged inside the shell, the impeller includes a central shaft and a plurality of blades arranged on the central shaft, an extension line of the central shaft extends toward the primary filter holder section and the secondary filter holder section, the blade is composed of a front end portion and a rear end portion, and the

front end portion is heavier than the rear end portion.

[0006] Preferably, each of the front end portion and the rear end portion is a continuous smooth curved surface, and an edge of the front end portion and an edge of the rear end portion are located in different planes.

[0007] Preferably, the front end portion and the rear end portion are arranged front and back along a motion track of the blade, a bending direction of the front end portion is opposite to a bending direction of the rear end portion, making the blade in an S shape.

[0008] Preferably, a height difference between an edge of the front end portion and an edge of the rear end portion is equal to or larger than 1/2 a height of the shell.

[0009] Preferably, sides near an inner wall of the shell of the front end portion and the rear end portion are each provided with a plurality of concave grooves arranged at intervals.

[0010] Preferably, each of the front end portion and the rear end portion is of a triangle structure having a cambered surface.

[0011] Preferably, a side near the inner wall of the shell of the triangle structure is a deformation area.

[0012] Preferably, at least one of a top surface and a bottom surface of the triangle structure is provided with a plurality of through holes for filling contents.

[0013] Preferably, the blade is arranged obliquely with respect to the central shaft.

[0014] Preferably, the blades are staggered.

[0015] Preferably, a sectional area of the shell increases gradually in a gas flowing direction.

[0016] Preferably, a support rod for being inserted into the central shaft is arranged on a central axis of the shell, and an end of the support rod is provided with a bulb having a diameter larger than a diameter of the support rod.

[0017] Preferably, the diameter of the support rod is within a range between 1/3 and 2/3 of a diameter of a hole of the central shaft.

[0018] A cigarette is provided according to the present application, including the cigarette holder.

[0019] The beneficial effects of the above-described technical solution is that: the cigarette holder according to the present application includes the filter, which includes the shell and the impeller arranged inside the shell, the blade on the impeller is composed of the front end portion and the rear end portion arranged front and back along a rotation track, and the front end portion is heavier than the rear end portion, hence before the impeller stops rotating, the front end portion keeps rotating due to a large inertia, and since a rotational speed of the front end portion is greater than a rotational speed of the rear end portion, vibration is generated as the front end portion drives the rear end portion to rotate.

BRIEF DESCRIPTION OF THE DRAWINGS

[0020] For more clearly illustrating embodiments of the

present application or the technical solutions in the conventional technology, drawings referred to describe the embodiments or the conventional technology will be briefly described hereinafter. Apparently, the drawings in the following description are only some examples of the present application, and for the person skilled in the art, other drawings may be obtained based on these drawings without any creative efforts.

Figure 1 is a view showing the structure of an impeller of a cigarette according to an embodiment of the present application;

Figure 2 is a view showing the structure of a shell of a cigarette according to an embodiment of the present application;

Figure 3 is a view showing the structure of an impeller of a cigarette according to another embodiment of the present application;

Figure 4 is a view showing the integral structure of a cigarette according to another embodiment of the present application.

DETAILED DESCRIPTION

[0021] A cigarette holder is provided according to the present application, in which an impeller stops rotating after the suction is stopped for 1 to 2.5 seconds, and an obvious vibration feel is generated when the impeller is rotating.

[0022] The technical solution according to the embodiments of the present application will be described clearly and completely as follows in conjunction with the accompany drawings in the embodiments of the present application. It is obvious that the described embodiments are only a part of the embodiments according to the present application. All the other embodiments obtained by those skilled in the art based on the embodiments in the present application without any creative efforts fall into the scope of the present application.

Embodiment 1

[0023] Referring to Figure 1 and Figure 2, the specific technical solution of a cigarette according to the present application is that:

the cigarette holder is a ternary composite holder, including a primary filter holder section, a filter and a secondary filter holder section in the listed sequence;

the filter includes a shell 3 and an impeller arranged inside the shell 3, the impeller includes a central shaft 1 and blades 2 arranged on the central shaft 1;

an extension line of the central shaft 1 extends toward the primary filter holder section and the secondary filter holder section. It should be understood that, in a case that the primary filter holder section, the filter and the secondary filter holder section are connected in the listed sequence and vertically arranged, the central shaft 1 is also vertically arranged;

the blade is composed of a front end portion 21 and a rear end portion 22 arranged front and back along a rotation track, and the front end portion 21 is heavier than the rear end portion 22. It should be understood that, the blade 2 rotates clockwise or anticlockwise by 360 degrees with respect to the central shaft 1, and the front end portion 21 and the rear end portion 22 are arranged according to the order of rotation.

[0024] Further, in order to reduce a resistance of the blade during rotation, each of the front end portion 21 and the rear end portion 22 is a continuous smooth curved surface. Preferably, a bending direction of the front end portion 21 is opposite to a bending direction of the rear end portion 22, making the blade in an S shape.

[0025] During the process that the impeller stops rotating, for making more obvious vibration feel for people, an edge of the front end portion 21 and an edge of the rear end portion 22 are located in different planes, and a projection area of the blade 2 is enlarged. Preferably, a height difference between the edge of the front end portion 21 and the edge of the rear end portion 22 is equal to or larger than 1/2 of a height of the shell 3.

[0026] For facilitating gas flow to pass through the primary filter holder section, the filter and the secondary filter holder section in the listed sequence, a side near an inner wall of the shell 3 of the front end portion 21 and the rear end portion 22 is provided with a plurality of concave grooves arranged at intervals.

[0027] Moreover, in order to further facilitate the gas circulation and increase the vibration feel during the process of stopping rotation, the blade is arranged obliquely with respect to the central shaft, and meanwhile the blades 2 are staggered.

[0028] Since the impeller according to the embodiment is arranged inside the shell 3 and rotates inside the shell 3, the central shaft 1 of the impeller may be embodied as a hollow shaft, and a support rod 34 for being inserted into the hollow shaft is arranged on the shell 3. For realizing the fixation of the support rod 34, the support rod 34 is fixed to a mudsill 32 which is connected to the inner wall of the shell through a base 31. In order to increase the vibration feel during the rotation of the impeller, a diameter of the support rod 34 is between 1/3 and 2/3 of a diameter of a hole of the central shaft 1. During the suction, the gas flow exerts pressure from a windward side, an axis of the central shaft is not coincident with an axis of the support rod in the initial state of the impeller. Since the force on the blade 2 is uniform, swing along

the support rod 34 is generated during the rotation.

[0029] Further, in order to prevent the impeller from sliding out of the support rod 34 during the rotation of the impeller, an end of the support rod is provided with a bulb 33 having a diameter greater than the diameter of the support rod.

[0030] Preferably, a sectional area of the shell 3 increases gradually in a gas flowing direction.

Embodiment 2

[0031] The cigarette holder is a ternary composite holder, including a primary filter holder section, a filter and a secondary filter holder section in the listed sequence;

the filter includes a shell 3 and an impeller arranged inside the shell 3, the impeller includes a central shaft 1 and blades 2 arranged on the central shaft 1;

an extension line of the central shaft 1 extends toward the primary filter holder section and the secondary filter holder section. It should be understood that, in a case that the primary filter holder section, the filter and the secondary filter holder section are connected in a listed sequence and vertically arranged, the central shaft 1 is also vertically arranged;

the blade is composed of a front end portion 21 and a rear end portion 22, the front end portion 21 and the rear end portion 22 are symmetrical with respect to a central line of the blade 2 and form a triangle structure, and a windward side 224 of the triangle structure is arc shaped. The front end portion 21 is heavier than the rear end portion 22. It should be understood that, the blade 2 rotates clockwise or anticlockwise by 360 degrees with respect to the central shaft 1.

[0032] Further, in order to reduce a resistance of the blade during rotation, each of the front end portion 21 and the rear end portion 22 is a continuous smooth curved surface. Preferably, the front end portion 21 and the rear end portion 22 are both bend inward, making the shape of the blade 2 in a U shape when viewed from the side.

[0033] During the process that the impeller stops rotating, for making more obvious vibration feel for people, an edge of the front end portion 21 and an edge of the rear end portion 22 are located in different planes, and a projection area of the blade 2 is enlarged. Preferably, a height difference between the edge of the front end portion 21 and the edge of the rear end portion 22 is equal to or larger than 1/2 of a height of the shell 3.

[0034] For facilitating the gas flow to pass through the primary filter holder section, the filter and the secondary filter holder section in the listed sequence, a side 222 of the triangle structure is a deformation area. When the deformation area is heated, a deformation occurs, making a clearance between the side 222 and the shell 3 become larger, thereby increasing the amount of the gas flow.

[0035] A top surface and/or a bottom surface of the

triangle structure is provided with a plurality of through holes for filling contents like medicines (such as citrus or eaglewood) or spices, to strengthen the aroma.

[0036] Moreover, in order to further facilitate the gas circulation and increase the vibration feel during the process of stop rotating, the blade is arranged obliquely with respect to the central shaft, and meanwhile the blades are staggered.

[0037] Since the impeller according to the embodiment is arranged inside the shell 3 and rotates inside the shell 3, the central shaft 1 of the impeller may be a hollow shaft, and a support rod 34 for being inserted into the hollow shaft is arranged on the shell 3. For realizing the fixation of the support rod 34, the support rod 34 is fixed to a mudsill 32 which is connected to the inner wall of the shell through a base 31. In order to increase the vibration feel during the rotation of the impeller, a diameter of the support rod 34 is between 1/3 and 2/3 of a diameter of the hole of the central shaft 1. During the suction, the gas flow exerts pressure from a windward side, and an axis of the central shaft is not coincident with an axis of the support rod under the initial state of the impeller. Since the force on the blade 2 is uniform, swing along the support rod 34 is generated during the rotation.

[0038] Further, in order to prevent the impeller from sliding out of the support rod 34 during the rotation of the impeller, an end of the support rod is provided with a bulb 33 having a diameter larger than the diameter of the support rod.

[0039] Preferably, a sectional area of the shell 3 increases gradually in a gas flowing direction.

[0040] A cigarette is also provided according to the present application, including the cigarettes corresponding to the embodiment 1 and embodiment 2.

[0041] The above embodiments are only intended for describing the technical solutions of the present application, and should not be interpreted as limitation to the present application. Although the present application is described in detail in conjunction with the above embodiments, it should be understood that, for those skilled in the art, modifications may be made to the technical solutions of the above embodiments, or equivalent substitutions may be made to part or all of the technical features in the technical solutions; and theses modifications and substitutions also fall into the scope of the present application defined by the claims.

Claims

1. A cigarette holder, wherein the cigarette holder is a ternary composite holder, comprising a primary filter holder section, a filter and a secondary filter holder section in the listed sequence; and the filter comprises a shell and an impeller arranged inside the shell, the impeller comprises a central shaft and a plurality of blades arranged on the central shaft, an extension line of the central shaft extends

toward the primary filter holder section and the secondary filter holder section, each blade is composed of a front end portion and a rear end portion, and the front end portion is heavier than the rear end portion.

2. The cigarette holder according to claim 1, wherein each of the front end portion and the rear end portion is a continuous smooth curved surface, and an edge of the front end portion and an edge of the rear end portion are located in different planes. 5
3. The cigarette holder according to claim 2, wherein the front end portion and the rear end portion are arranged front and back along a motion track of the blade, and a bending direction of the front end portion is opposite to a bending direction of the rear end portion, making the blade in an S shape. 10
4. The cigarette holder according to claim 3, wherein a height difference between an edge of the front end portion and an edge of the rear end portion is equal to or larger than 1/2 of a height of the shell. 15
5. The cigarette holder according to claim 4, wherein sides near an inner wall of the shell of the front end portion and the rear end portion are each provided with a plurality of concave grooves arranged at intervals. 20
6. The cigarette holder according to claim 2, wherein each of the front end portion and the rear end portion is of a triangle structure having a cambered surface. 25
7. The cigarette holder according to claim 6, wherein a side near the inner wall of the shell of the triangle structure is a deformation area. 30
8. The cigarette holder according to claim 6, wherein at least one of a top surface and a bottom surface of the triangle structure is provided with a plurality of through holes for filling contents. 35
9. The cigarette holder according to any one of claims 1 to 8, wherein the blade is arranged obliquely with respect to the central shaft. 40
10. The cigarette holder according to any one of claims 1 to 8, wherein the blades are staggered. 45
11. The cigarette holder according to any one of claims 1 to 8, wherein a sectional area of the shell increases gradually in a gas flowing direction. 50
12. The cigarette holder according to any one of claims 1 to 8, wherein a support rod for being inserted into the central shaft is arranged on a central axis of the shell, and an end of the support rod is provided with a bulb having a diameter larger than a diameter of

the support rod.

13. The cigarette holder according to claim 12, wherein the diameter of the support rod is within a range between 1/3 and 2/3 of a diameter of a hole of the central shaft.
14. A cigarette, comprising the cigarette holder according to any one of claims 1 to 13.

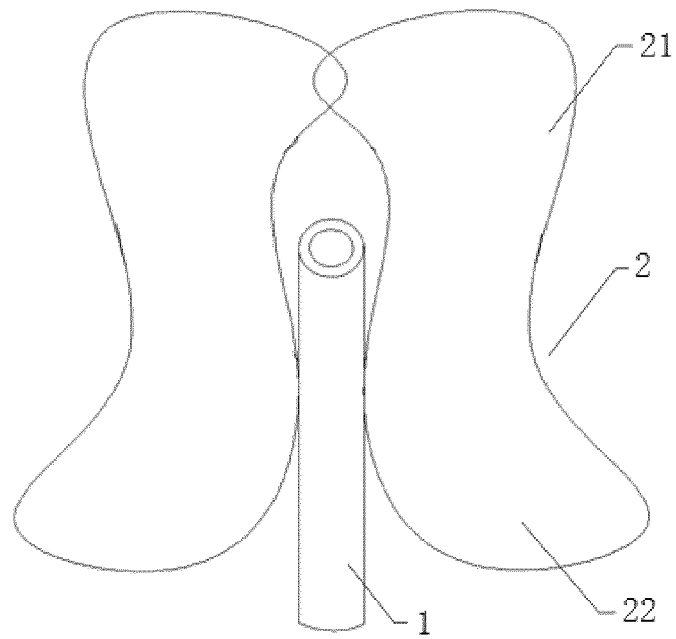


Figure 1

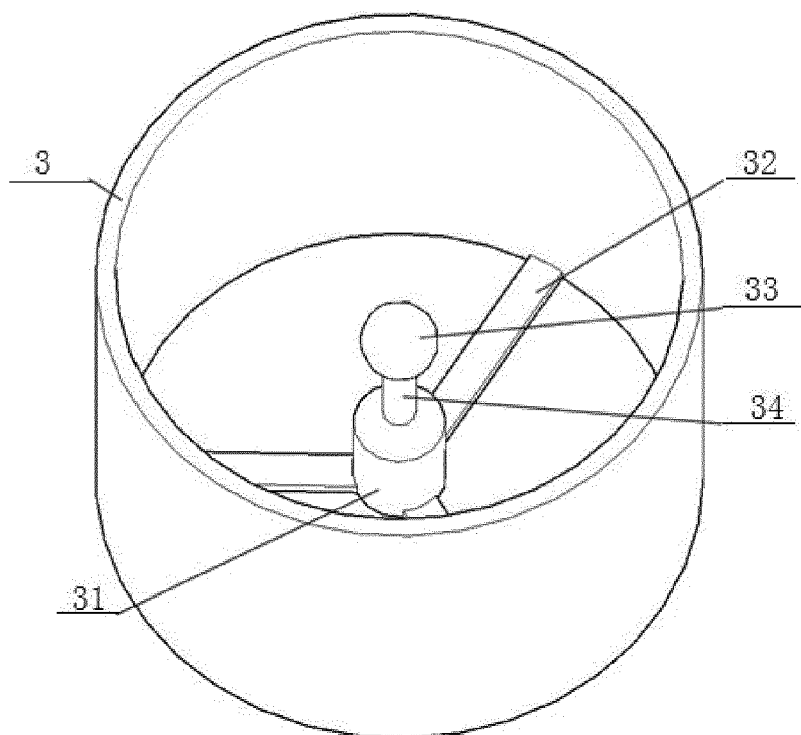


Figure 2

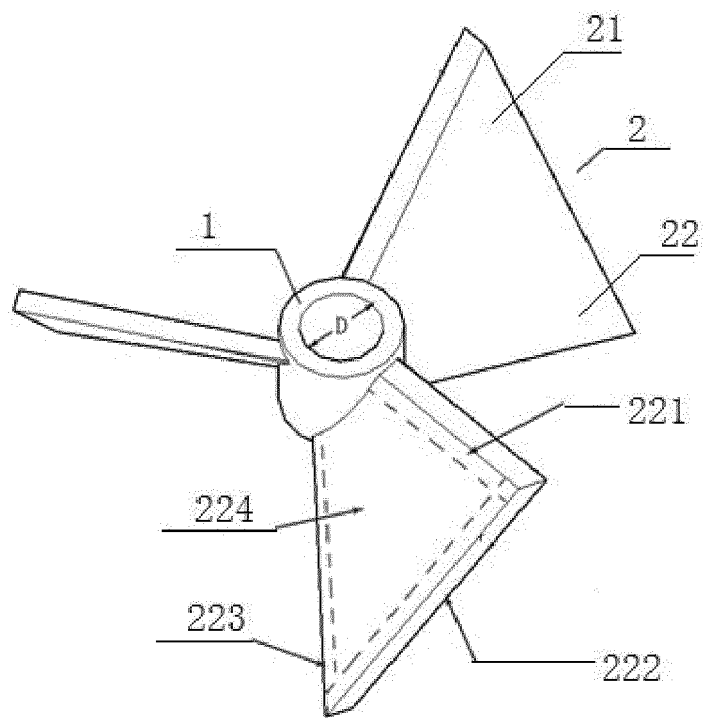


Figure 3

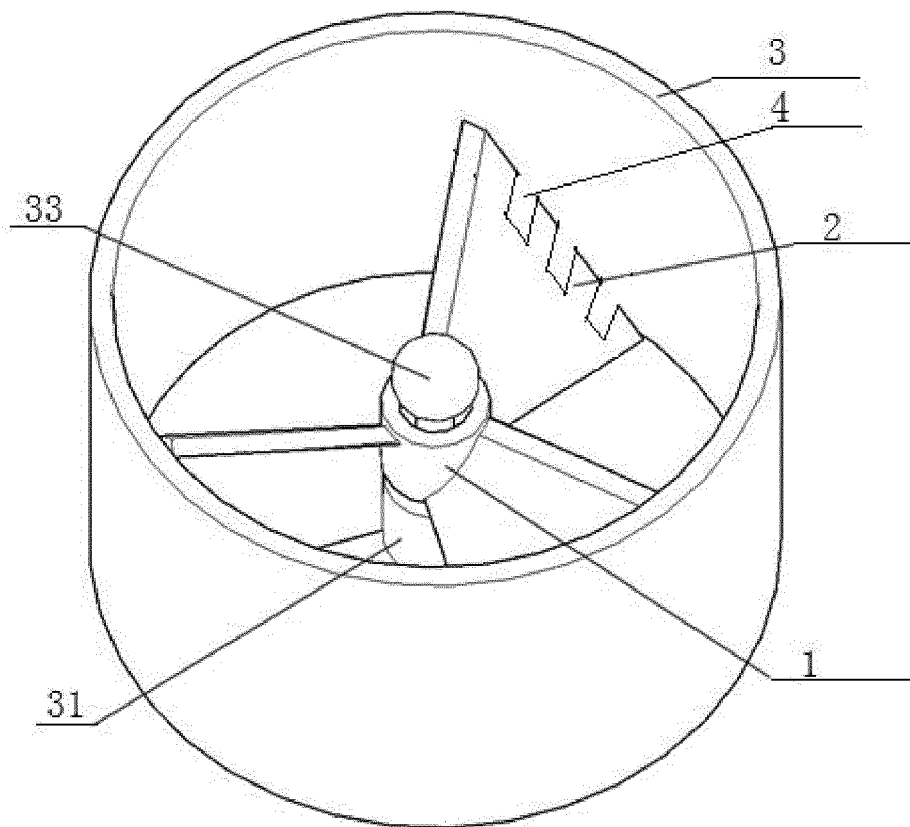


Figure 4



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Application Number
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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 5 July 2018	Examiner Schwarzer, Bernd
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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