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(54) METAL MASCARA BRUSH WITH EFFECTS OF HEATING AND QUICKLY SHAPING, AND MASCARA

(57) The present invention belongs to the field of mascara brushes, and particularly relates to a metal mascara brush with effects of heating and quickly shaping. The metal mascara brush comprises a main body of the mascara brush, a metal brush head and a heating core, wherein the metal brush head is fixedly disposed on the main body of the mascara brush; the heating core is disposed in the metal brush head; the heating core comprises a heating wire which is bent and formed with a first heating portion for heating and a second heating portion for heating; the first heating portion is sleeved with a first insulation tube; and the second heating portion is sleeved with a second insulation tube. In the present invention, the first heating portion and the second heating portion are cooperatively provided so as to generate heat together. Based on the function of the first insulation tube, it prevents the first heating portion from contacting with the second heating portion to cause a short circuit. Based on the function of the second insulation tube, it prevents the second heating portion from contacting with the metal brush head to cause a short circuit, so that the metal mascara brush is more reliable when used.

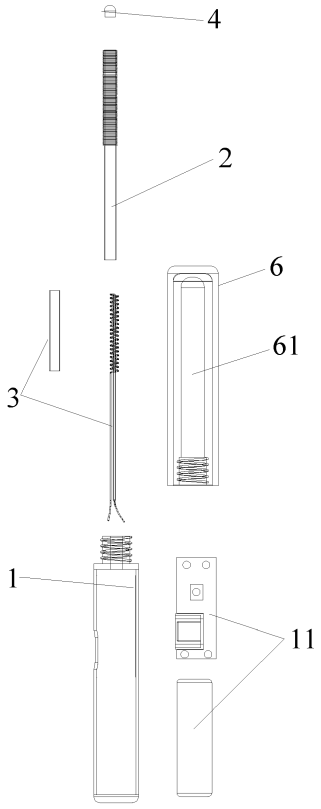

Fig. 1

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Description

Technical Field

[0001] The present invention relates to the field of mascara brushes, and more particularly, to a metal mascara brush.

Background Art

[0002] In the present field of mascara, after the mascara is applied to a mascara brush by a mascara brush head for brushing the mascara, the mascara on the eyelash is solidified and the eyelash is shaped for a long time, thus making the process of brushing the mascara less efficient. Based on the fact that the curing speed of the mascara is greatly increased after being heated, rapid curing of the mascara can be achieved by heating when the mascara is brushed. However, when the brush head of the mascara brush is a metal brush head and the existing heating core structure is in direct contact with a metal shell of the metal brush head, the circuit will be short-circuited, so that the metal brush head cannot be normally used for heating, thus affecting the reliability of the mascara brush.

Summary of the Invention

[0003] In order to solve the above-mentioned problems, it is a primary object of the present invention to provide a metal mascara brush with effects of heating and quickly shaping, which has a heating function to allow quick shaping of the eyelash when mascara liquid is brushed.

[0004] Another object of the present invention is to provide a metal mascara brush with effects of heating and quickly shaping, and which is less likely to have a short circuit and and more reliable when used.

[0005] In order to achieve the above object, the technical solutions adopted by the invention are as follows.

[0006] A metal mascara brush with effects of heating and quickly shaping is characterized in that the metal mascara brush comprises a main body of the mascara brush, a metal brush head and a heating core; the metal brush head is fixedly disposed on the main body of the mascara brush; the heating core is disposed in the metal brush head; the heating core comprises a heating wire which is bent and formed with a first heating portion for heating and a second heating portion for heating; one end of the first heating portion is a first connecting end, one end of the second heating portion is a second connecting end, and the first connecting end and the second connecting end are connected to the main body of the mascara brush; the other end of the first heating portion is connected to the other end of the second heating portion; the first heating portion is sleeved with a first insulation tube for preventing the first heating portion from contacting with the second heating portion and short-circuiting; and the second heating portion is sleeved with a second insulation tube for preventing the second heating portion from contacting with the metal brush head and and short-circuiting.

[0007] In the metal mascara brush, the first heating portion and the second heating portion are cooperatively provided so as to generate heat together, so that the metal mascara brush has a heating function when brushing the eyelash. Based on the function of the first insulation tube, it prevents the first heating portion from contacting with the second heating portion to cause a short circuit. Based on the function of the second insulation tube, it prevents the second heating portion from contacting with the metal brush head to cause a short circuit, so that the metal mascara brush is more reliable when used.

[0008] In addition, in the metal mascara brush, based on the arrangement of the metal brush head, the metal mascara brush has the following advantages by using the characteristics of good thermal conductivity/plasticity/-corrosion resistance of the metal: 1, the heat can be quickly and uniformly conducted to the use position; 2, according to different usage habits, various forms can be made to meet user needs; 3, the problem of post-use cleaning can be solved by washing with water/alcohol without damaging the product.

[0009] Furthermore, the metal brush head is provided with a prompt for prompting the heating temperature of the heating core, the prompt corresponding to the position of the heating core. When the heating core is operated and heated to a certain temperature, the prompt can be used to prompt the temperature thereof.

[0010] Specifically, the prompt is a thermal conductive silicone. The prompt is fixedly disposed at an end portion of the metal brush head. When the heating core generates heat, according to the phenomenon of heating discoloration of the prompt made of thermal conductive silicone, it is used for prompting the heating temperature of the heating core.

[0011] Further, the second insulation tube is sleeved outside the second heating portion and the first insulation tube.

[0012] Furthermore, the other end of the second heating portion is spirally wound outside the first insulation tube to form a spiral heating section; and the second insulation tube is sleeved outside the spiral heating section. The spiral heating section is arranged so that the section heats up more efficiently.

[0013] Furthermore, the second heating portion further comprises a linear heating section; one end of the spiral heating section is connected to the other end of the first heating portion, and the other end of the spiral heating section is connected to the linear heating section; the other end of the linear heating section is connected to the second connecting end; the spiral heating section surrounds the other end of the first heating portion; and the linear heating section is disposed in parallel at a side of the one end of the first heating portion. The second

heating portion comprises the arrangement of the linear heating section and the spiral heating section. By rationally setting the heating effect of different positions of the heating core, the heating core is effectively made to cooperate with the external brush head to assist in rapid eyelash shaping.

[0014] Further, the heating core further comprises a heat conducting body covering the heating wire, the first insulation tube and the second insulation tube. The heat conducting body is provided so as to transfer the heat of the heating wire more effectively.

[0015] Further, the thermally conductive body is a thermal conductive silicone.

[0016] Further, the heating wire is a nickel-chromium wire. The heating wire is made of nickel-chromium wire alloy material, which makes it generate heat quickly and consume less power.

[0017] Furthermore, a first gap exists between the first insulation tube and the first heating portion; a second gap exists between the second insulation tube and the second heating portion; and when the heat conducting body covers the heating wire, the first insulation tube and the second insulation tube, at least part of the heat conducting body is filled into the first gap and the second gap.

[0018] Further, a brush head cover is provided outside the metal brush head; the brush head cover is detachably disposed on the metal brush head; and an eyelash brushing portion for brushing the eyelash is disposed outside the brush head cover. The removable arrangement of the brush head cover allows different brush head covers to be replaced as needed to accommodate different usage requirements by different eyelash brushing portions on different brush head covers, making the brush head more convenient to use and more convenient to use than directly replacing different metal brush heads.

[0019] Alternatively, the metal brush head is provided with an eyelash brushing portion directly fixed to the outside thereof.

[0020] Further, the brush head cover is detachably sleeved to the outside of the metal brush head.

[0021] Further, the brush head cover is formed of a flexible material.

[0022] Further, the eyelash brushing portion comprises bristles; or

the eyelash brushing portion comprises columnar eyelash brushing protrusions; or

the eyelash brushing portion includes ring-shaped eyelash brushing protrusions.

[0023] Further, the eyelash brushing protrusion has a quantity of a plurality of circles; an eyelash brushing groove is formed between two adjacent circles of eyelash brushing protrusions; more than one eyelash separating protrusion is also disposed around the inside of the eyelash brushing groove; and the outer diameter of an end portion of the eyelash separating protrusion is smaller than the outer diameter of an end portion of the eyelash brushing protrusion. Based on the arrangement of the eyelash separating protrusions, it is possible to prevent the eyelash in the brush eyelash groove from being accumulated into a bundle, and the eyelash in the brush eyelash groove can be separated by the eyelash separating protrusions so that mascara liquid can be more uniformly brushed and applied.

[0024] Further, the outside of the eyelash separating protrusion and/or the outside of the eyelash brushing protrusion are provided with a rough surface. The rough surface may be provided so that the eyelash brushing protrusions, the plurality of eyelash brushing grooves, and the eyelash separating protrusions are matched. It will be more effective when the mascara liquid is dipped and the mascara liquid is brushed on the eyelash. The rough surface may be formed by treating the surface roughness by etching/laser or the like.

[0025] Further, an arc-shaped groove is disposed at a junction of the eyelash brushing protrusion and the eyelash separating protrusion. The arc-shaped groove is circumferentially disposed on a brush head sleeve or a metal brush head.

[0026] Further, the end portions of the eyelash brushing portion and the eyelash separating protrusion are arc-shaped structures surrounding the outside of the metal brush head. The arrangement of the arc-shaped structure may make the eyelash separating protrusions and the eyelash separating protrusion safer when brushing the eyelash.

[0027] Further, both sides of the end portions of the eyelash brushing portion and both sides of the end portions of the eyelash separating protrusion are symmetrically arranged slope structures.

[0028] A mascara is characterized in that the mascara comprises a bottle body and the metal mascara brush, wherein the bottle body is provided with a storage chamber for storing mascara liquid; the metal mascara brush is detachably connected to the bottle body; and the metal brush head extends into the storage chamber. In the mascara, the first heating portion and the second heating portion are cooperatively provided so as to generate heat together, so that the metal mascara brush has a heating function when brushing the eyelash. Based on the function of the first insulation tube, it prevents the first heating portion from contacting with the second heating portion to cause a short circuit. Based on the function of the second insulation tube, it prevents the second heating portion from contacting with the metal brush head to cause a short circuit, so that the mascara brush is more reliable when used.

[0029] The present invention has advantageous effects in that the first heating portion and the second heating portion are cooperatively provided so as to generate heat together, so that the metal mascara brush has a heating function when brushing the eyelash. Based on the function of the first insulation tube, it prevents the first heating portion from contacting with the second heating

portion to cause a short circuit. Based on the function of the second insulation tube, it prevents the second heating portion from contacting with the metal brush head to cause a short circuit, so that the metal mascara brush is more reliable when used.

Brief Description of the Drawings

[0030]

Fig. 1 is an exploded view of mascara.

Fig. 2 is a structural schematic view of a heating core.

Fig. 3 is a structural schematic view of a heating wire and a first insulation tube.

Fig. 4 is an exploded view of a heating wire, a first insulation tube, and a second insulation tube.

Fig. 5 is a structural schematic view of a second embodiment of an eyelash brushing portion.

Fig. 6 is a structural schematic view of a third embodiment of the eyelash brushing portion.

Fig. 7 is an enlarged partial view at A of Fig. 4.

Detailed Description of the Invention

[0031] In order that the objects, aspects, and advantages of the invention will become more apparent, a more particular description of the invention will be rendered by reference to the appended drawings and embodiments. It should be understood that the specific examples described herein are merely used for explanation of the invention and are not intended to be limiting thereof.

[0032] With reference to Figs. 1-7, a metal mascara brush with effects of heating and quickly shaping is characterized in that the metal mascara brush includes a main body 1 of the mascara brush, a metal brush head 2 and a heating core 3. The metal brush head 2 is fixedly disposed on the main body 1 of the mascara brush. The heating core 3 is disposed in the metal brush head 2. The heating core 3 includes a heating wire 31 which is bent and formed with a first heating portion 311 for heating and a second heating portion 312 for heating. One end of the first heating portion 311 is a first connecting end 3111, and one end of the second heating portion 312 is a second connecting end 3121. The first connection end 3111 and the second connection end 3121 are electrically connected to an internal circuit module 11 of the main body 1 of the mascara brush. The other end of the first heating portion 311 is connected to the other end of the second heating portion 312. The first heating portion 311 is sleeved with a first insulation tube 32 for preventing the first heating portion 311 and the second heating portion 312 from contacting and short-circuiting. The second heating portion 312 is sleeved with a second insulation tube 33 for preventing the second heating portion 312 from contacting and short-circuiting with the metal brush head 2. Specifically, the circuit module 11 is prior art, and may be a structure including a circuit board structure, a battery and a key. Herein, the specific circuit design in the circuit board structure is prior art.

[0033] In this embodiment, the metal brush head 2 is provided with a prompt 4 for prompting the heating temperature of the heating core, the prompt 4 corresponding to the position of the heating core 3.

[0034] Specifically, the prompt 4 is thermal conductive silicone. The prompt 4 is fixedly disposed at an end portion of the metal brush head 2.

[0035] In the present embodiment, the second insulation tube 33 is sleeved outside the second heating portion 312 and the first insulation tube 32.

[0036] In the present embodiment, the other end of the second heating portion 312 is spirally provided around outside the first insulation tube 32 to form a spiral heating section 3122. The second insulation tube 33 is sleeved outside the spiral heating section 3122.

[0037] In the present embodiment, the second heating portion 3122 further includes a linear heating section 3123. One end of the spiral heating section 3122 is connected to the other end of the first heating portion 311, and the other end of the spiral heating section 3122 is connected to the linear heating section 3123. The other end of the linear heating section 3123 is connected to the second connecting end 3121. The spiral heating section 3122 surrounds the other end of the above-mentioned first heating portion 311. The linear heating section 3123 is disposed in parallel at a side of one end of the first heating portion 311.

[0038] In this embodiment, the heating core 3 further includes a heat conducting body 34 covering the heating wire 31, the first insulation tube 32 and the second insulation tube 33.

[0039] In this embodiment, the thermally conductive body 34 is a thermal conductive silicon.

[0040] In this embodiment, the heating wire 31 is a nickel-chromium wire.

[0041] In the present embodiment, a first gap 321 exists between the first insulation tube 32 and the first heating portion 311. A second gap 331 exists between the second insulation tube 33 and the second heating portion 312. When the heat conducting body 34 covers the heating wire 31, the first insulation tube 32 and the second insulation tube 33, at least part of the heat conducting body 34 is filled into the first gap 321 and the second gap 331.

[0042] In the present embodiment, a brush head cover 5 is provided outside the metal brush head 2. The brush head cover 5 is detachably provided on the metal brush head 2. An eyelash brushing portion for brushing the eyelash is provided outside the brush head cover 5. In particular, the brush head cover 5 is detachably connected to the outside of the metal brush head. The brush

head sleeve 5 is formed of a flexible material.

[0043] Alternatively, the metal brush head 2 is provided with an eyelash brushing portion directly fixed to the outside thereof.

[0044] Specifically, the eyelash brushing portion has three embodiments.

[0045] In a first embodiment of the eyelash brushing portion, the eyelash brushing portion includes bristles.

[0046] Referring to Fig. 5, in a second embodiment of the eyelash brushing portion, the eyelash brushing portion includes columnar eyelash brushing portions 51.

[0047] Referring to Figs. 6-7, in a third embodiment of the mascara brush, the eyelash brushing portion includes ring-shaped eyelash brushing protrusions 52.

[0048] In the present embodiment, a plurality of eyelash brushing protrusions 52 are fixedly disposed outside a brush head sleeve 5 or outside a metal brush head 2. An eyelash brushing groove 53 is formed between two adjacent eyelash brushing protrusions 52. More than one eyelash separating protrusion 54 is fixedly disposed in the eyelash brushing groove 53. The eyelash brushing protrusions 52 has a quantity of a plurality of circles. An eyelash brushing groove 53 is formed between two adjacent circles of eyelash brushing protrusions 52. More than one eyelash separating protrusion 54 is also disposed around around the inside of the eyelash brushing groove 53. The outer diameter of an end portion of the eyelash separating protrusion 54 is smaller than the outer diameter of an end portion of the eyelash brushing protrusions 52.

[0049] In the present embodiment, the outside of the eyelash separating protrusion 54 and/or the outside of the eyelash brushing protrusion 52 are provided with a rough surface 55.

[0050] In this embodiment, an arc-shaped groove 56 is disposed at a junction of the eyelash brushing protrusion 52 and the eyelash separating protrusion 54. The arc-shaped groove 56 is circumferentially disposed on the brush head sleeve 5 or the metal brush head 2.

[0051] In this embodiment, the end portions of the eyelash brushing protrusion 52 and the end portions of the eyelash separating protrusion 54 are arc-shaped structures 57 surrounding the outside of the metal brush head 2.

[0052] In the present embodiment, both sides of the end portions of the eyelash brushing protrusion 52 and both sides of the end portions of the eyelash separating protrusion 54 are symmetrically arranged slope structures 58.

[0053] Referring to Fig. 1, a mascara is characterized in that the mascara includes a bottle body 6 and a metal mascara. The bottle body 6 is provided with a storage chamber 61 for storing mascara liquid. The metal mascara brush is detachably connected to the bottle body 6. The metal brush head 2 extends into the storage chamber 61.

[0054] The above mentioned are only preferred embodiments of the invention and is not intended to limit the invention. Any modification, equivalent substitution and improvement made within the spirit and principles of the invention shall be covered by the protection of the invention.

Claims

1. A metal mascara brush with effects of heating and quickly shaping, wherein the metal mascara brush comprises a main body of the mascara brush, a metal brush head and a heating core; the metal brush head is fixedly disposed on the main body of the mascara brush; the heating core is disposed in the metal brush head; the heating core comprises a heating wire which is bent and formed with a first heating portion for heating and a second heating portion for heating; one end of the first heating portion is a first connecting end, one end of the second heating portion is a second connecting end, and the first connecting end and the second connecting end are connected to the main body of the mascara brush; the other end of the first heating portion is connected to the other end of the second heating portion; the first heating portion is sleeved with a first insulation tube for preventing the first heating portion from contacting with the second heating portion and short-circuiting; and the second heating portion is sleeved with a second insulation tube for preventing the second heating portion from contacting with the metal brush head and short-circuiting.

2. The metal mascara brush with effects of heating and quickly shaping according to claim 1, wherein the metal brush head is provided with a prompt for prompting the heating temperature of the heating core, the prompt corresponding to the position of the heating core.

3. The metal mascara brush with effects of heating and quickly shaping according to claim 1, wherein the other end of the second heating portion is spirally wound outside the first insulation tube to form a spiral heating section; and the second insulation tube is sleeved outside the spiral heating section.

4. The metal mascara brush with effects of heating and quickly shaping according to claim 3, wherein the second heating portion further comprises a linear heating section; one end of the spiral heating section is connected to the other end of the first heating portion, and the other end of the spiral heating section is connected to the linear heating section; the other end of the linear heating section is connected to the second connecting end; the spiral heating section surrounds the other end of the first heating portion; and the linear heating section is disposed in parallel at a side of the one end of the first heating

portion.

5. The metal mascara brush with effects of heating and quickly shaping according to claim 1, wherein the heating core further comprises a heat conducting body covering the heating wire, the first insulation tube and the second insulation tube;
wherein a first gap exists between the first insulation tube and the first heating portion; a second gap exists between the second insulation tube and the second heating portion; and when the heat conducting body covers the heating wire, the first insulation tube and the second insulation tube, at least part of the heat conducting body is filled into the first gap and the second gap.

6. The metal mascara brush with effects of heating and quickly shaping according to any one of claims 1-5, wherein a brush head cover is provided outside the metal brush head; the brush head cover is detachably disposed on the metal brush head; and an eyelash brushing portion for brushing the eyelash is disposed outside the brush head cover; or
the metal brush head is provided with an eyelash brushing portion directly fixed to the outside thereof.

7. The metal mascara brush with effects of heating and quickly shaping according to claim 6, wherein the eyelash brushing portion comprises bristles; or

the eyelash brushing portion comprises columnar eyelash brushing protrusions; or
the eyelash brushing portion includes ring-shaped eyelash brushing protrusions.

8. The metal mascara brush with effects of heating and quickly shaping according to claim 7, wherein the eyelash brushing protrusion has a quantity of a plurality of circles; an eyelash brushing groove is formed between two adjacent circles of eyelash brushing protrusions; more than one eyelash separating protrusion is also disposed around the inside of the eyelash brushing groove; and the outer diameter of an end portion of the eyelash separating protrusion is smaller than the outer diameter of an end portion of the eyelash brushing protrusion.

9. The metal mascara brush with effects of heating and quickly shaping according to claim 8, wherein the outside of the eyelash separating protrusion and/or the outside of the eyelash brushing protrusion are provided with a rough surface.

10. A mascara, wherein the mascara comprises a bottle body and the metal mascara brush according to any one of claims 1-9, wherein the bottle body is provided with a storage chamber for storing mascara liquid; the metal mascara brush is detachably connected to the bottle body; and the metal brush head extends into the storage chamber.

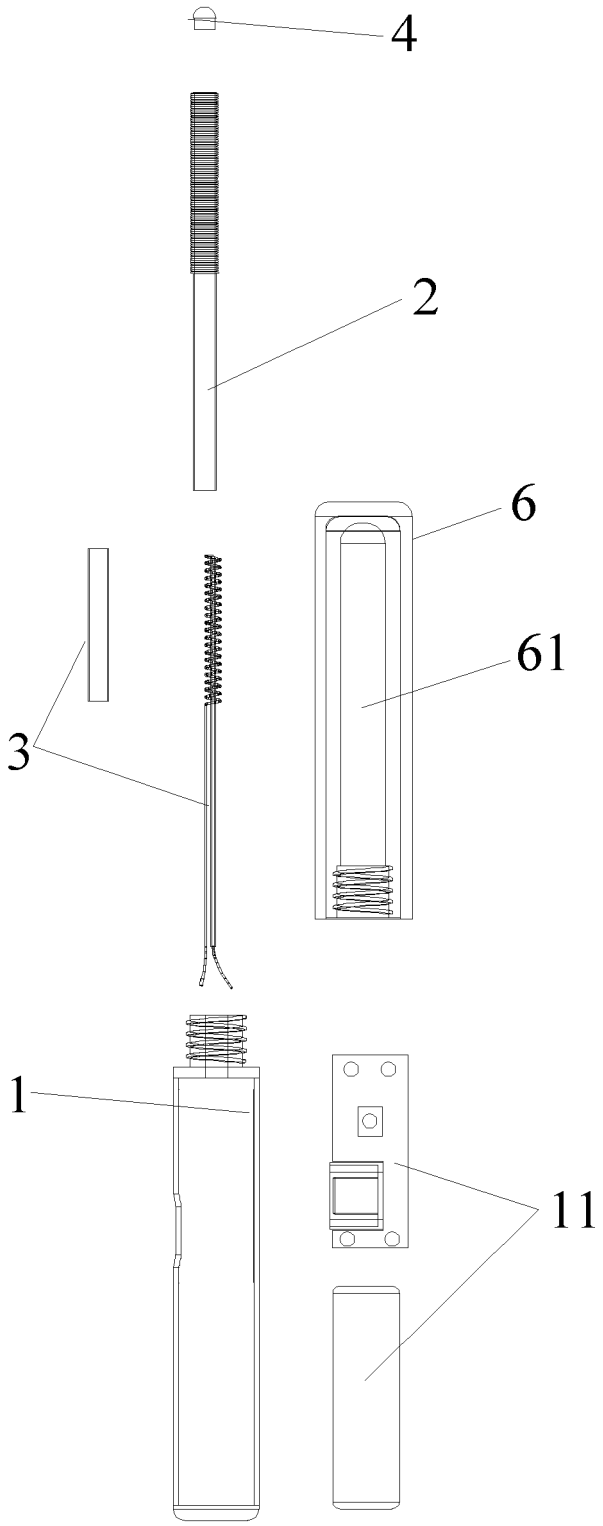

Fig. 1

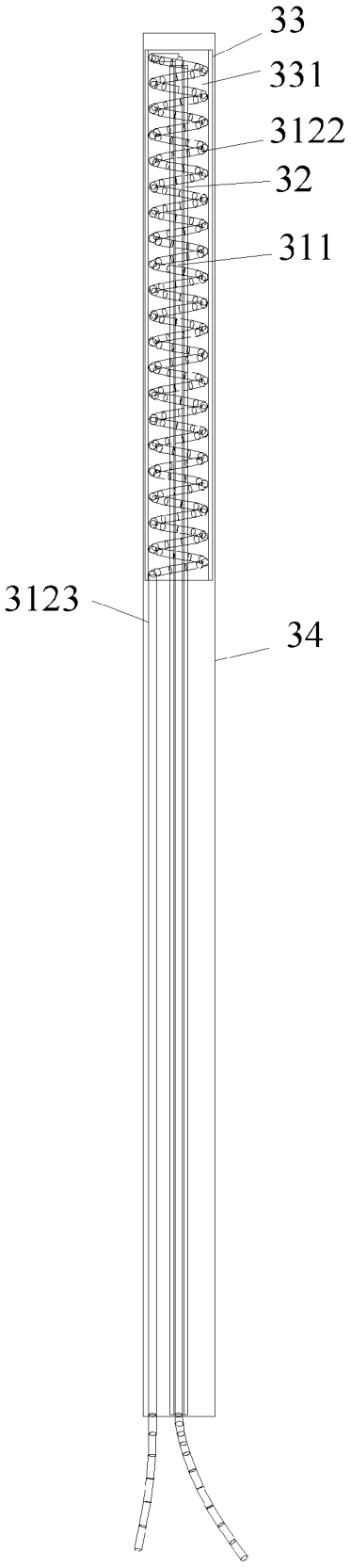

Fig. 2

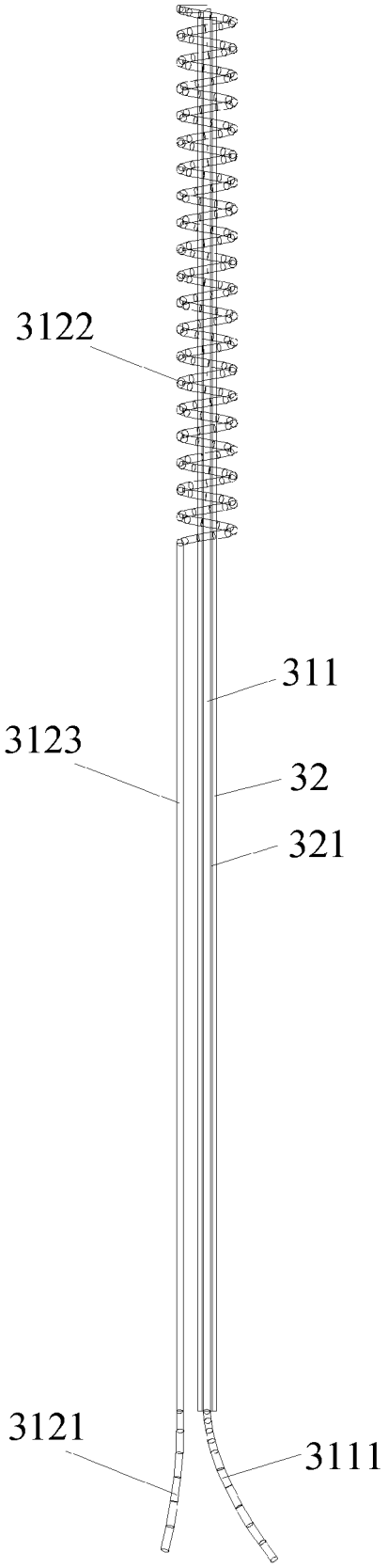

Fig. 3

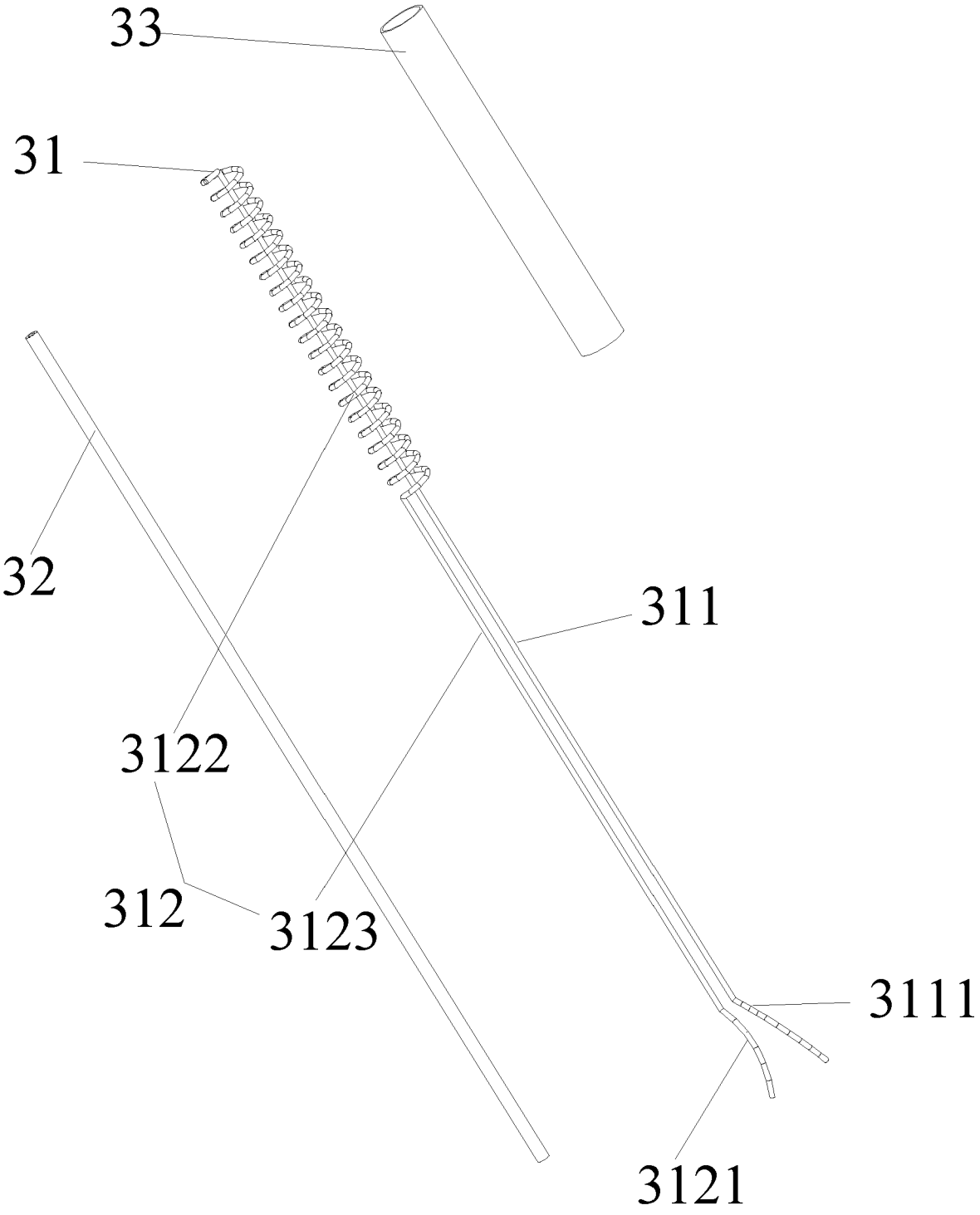

Fig. 4

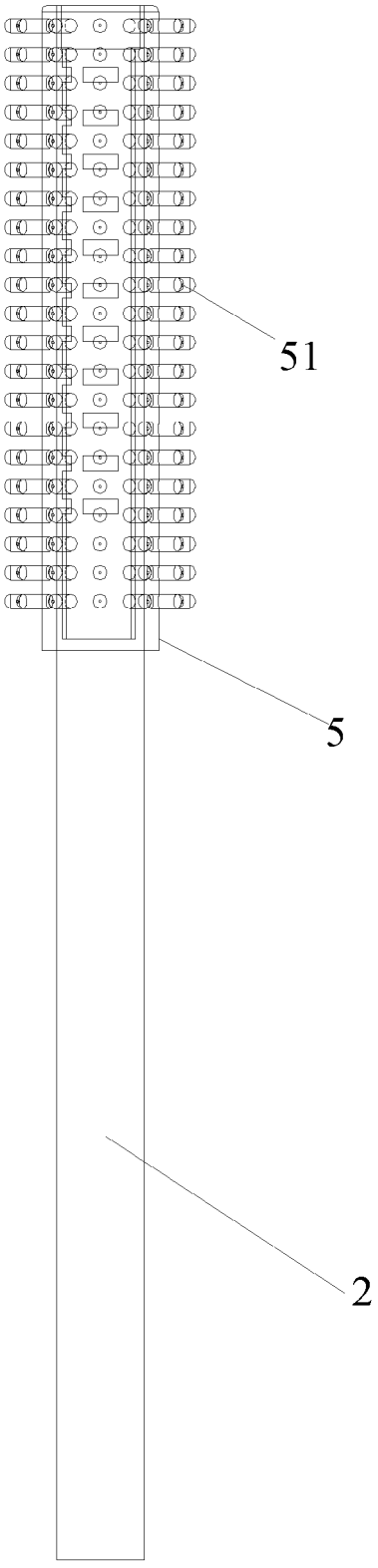

Fig. 5

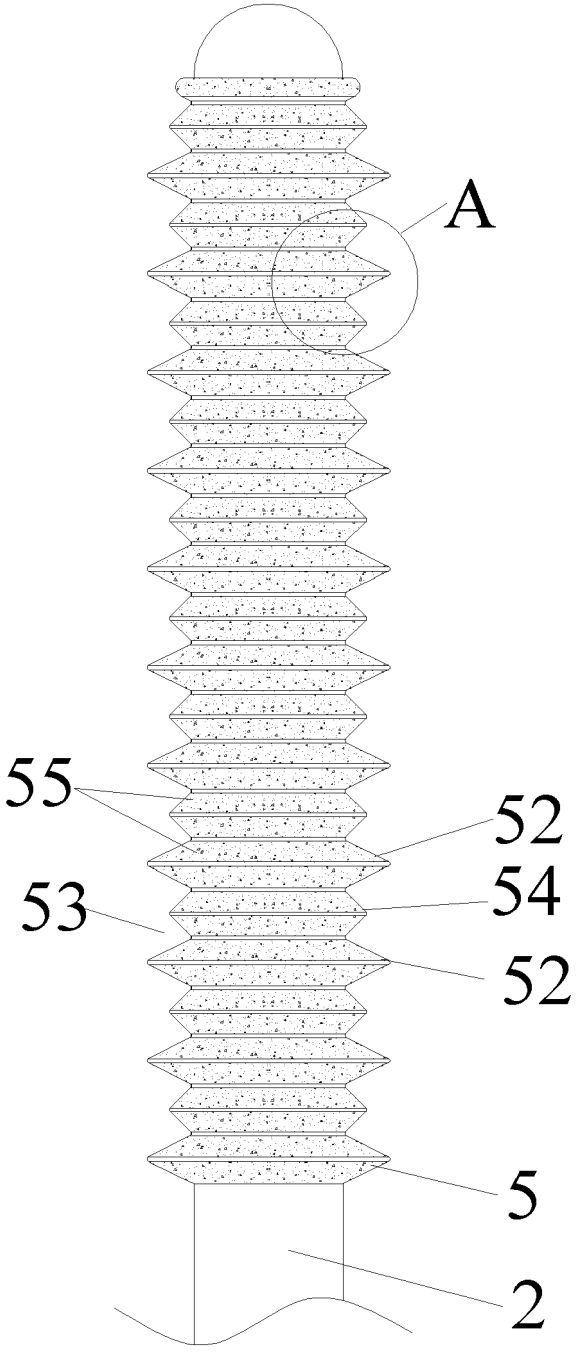

Fig. 6

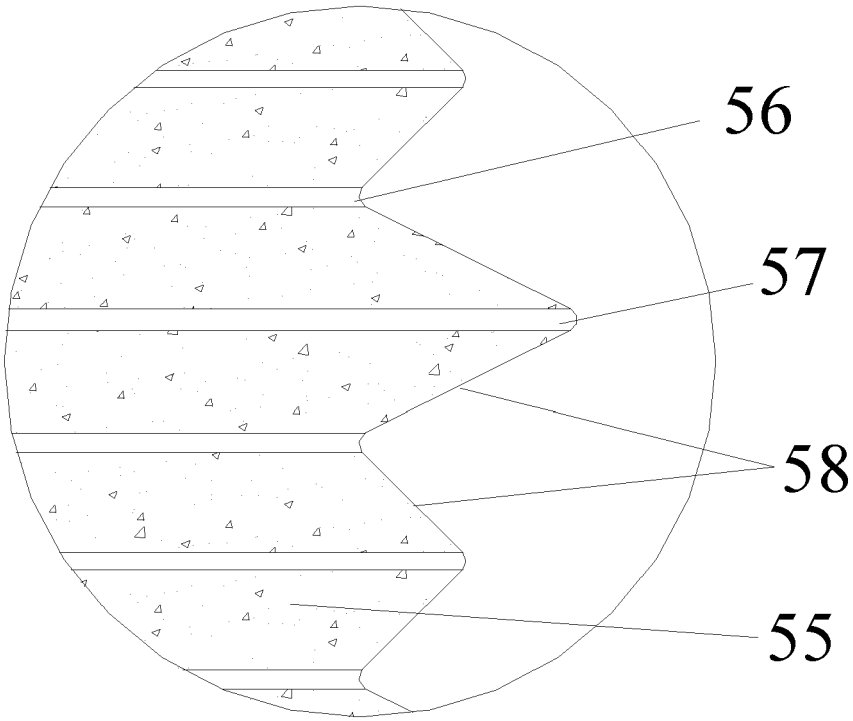

Fig. 7

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EUROPEAN SEARCH REPORT

Application Number
EP 24 16 4327

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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TECHNICAL FIELDS SEARCHED (IPC)
A46B A45D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	14 August 2024	Rossini, Marco

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 24 16 4327

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82