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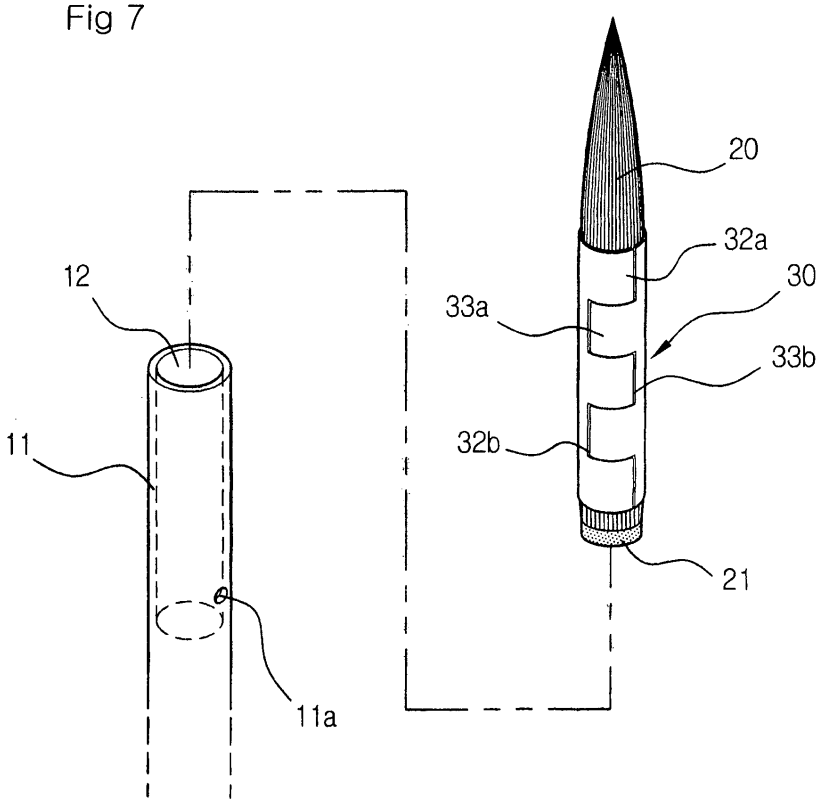
(54) Cosmetic brush and method of fixing tuft of bristles of said cosmetic brush

(57) Disclosed herein is a cosmetic brush (1) and method of fixing tuft of bristles (20) of said cosmetic brush (1), which can prevent twist of a tuft of bristles (20), when the tuft of bristles (20) is rotated in a liquid cosmetics having high-viscosity upon the screw-coupling of a cap (10) and a cosmetic container (2) with each other, such that the tuft of bristles implanted at an end of a stem (11) is firmly fixed by means of a cylindrical-shaped metal member (30).

Fig 7



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Description

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] The present invention relates to a cosmetic brush and a method of fixing a tuft of bristles of the cosmetic brush in which a cap coupled to a cosmetic container is formed with a stem where a tuft of bristles is implanted, and more particularly, to a cosmetic brush and a method of fixing a tuft of bristles of said cosmetic brush in which a tuft of bristles implanted in an end of the stem is firmly fixed by means of a cylindrical-shaped metal member, so that it prevents the bristles from twisting out of alignment while the bristles is rotated in cosmetic liquid having high-viscosity, when the cap mainly coupled to the other end of stem is screw-coupled with a cosmetic container.

Background of the Related Art

[0002] In general, in case of make-up with liquid cosmetic products such as rouge, lip gross, mascara, eye liner, and nail varnish by using a cosmetic brush, as a cap mounted at an upper portion of the stem where a tuft of bristles is implanted is screw-coupled with a cosmetic container, a user can conveniently carry the liquid cosmetic product in a state where the stem and the tuft of bristles is kept in the cosmetic container. If necessary, the user can apply make-up with the cosmetic brush stained with liquid cosmetics after removing the cap from the cosmetic container.

[0003] The cosmetic brush, as shown in FIG.1a, is constructed such that an adhesive portion 21 is formed at an end portion of a tuft of bristles 20 by heating and adhering the bristles together, so that it can prevent the bristles from being pulled out of the tuft of bristles. And the tuft of bristles 20, as shown in FIG.1b, is constructed such that it is inserted into an end of a cylindrical-shaped stem 11, and then the adhesive portion 21 is fixed by means of a pressurized point 11a formed by punching an outer periphery surface of the stem, so that the tuft of the bristles 20 is fixed.

[0004] In the prior art described above, however, when the tuft of bristles 20 is rotated in the liquid cosmetics having high-viscosity upon screw-coupling the cap and the cosmetic container with each other, the tuft of bristles 20 is twisted inside the stem 11 due to the resistance against the liquid cosmetics, as shown in FIG.1c.

[0005] Moreover, there are several disadvantages in that since the adhesive portion 21 fixing the tuft of bristles 20 is necessarily fixed in order to fix the tuft of bristles 20 into the inside the stem 11, the whole length of the tuft of bristles 20 becomes longer considering of the length of the tuft of bristles 20 which is inserted into the inside the stem 11, and in that problems such as production of inferior goods and the like may be occurred in the processing of the punching operation so as to form a pressurized point 11a, because the narrowed adhesive portion 21 is pressed by punching the outer periphery surface of the stem 11 with accuracy.

[0006] In addition, the conventional method has further problems in that in case of forming the adhesive portion 21 at an end of the tuft of bristles 20 to fix the bristles, the tuft of bristles 20 is not firmly fastened, thus allowing the bristles to be pulled out of the tuft of bristles 20 when using the cosmetic brush. Otherwise, in case of inserting and fixing the tuft of bristles 20 into the inside the stem 11, a larger amount of the bristles cannot be fixed to the stem 11.

[0007] Accordingly, the length of the tuft of bristles 20 which is come out from inside the stem 11 should be formed to be shortened relatively in order to fix the tuft of bristles 20 positioned inside the stem 11, so that it can prevent twist of the tuft of bristles 20 and the like due to the resistance against the liquid cosmetics. In this regard, it is necessary to propose an invention in which the tuft of bristles 20 positioned inside the stem 11 is firmly fixed.

SUMMARY OF THE INVENTION

[0008] Accordingly, the present invention has been made to solve the above problems occurring in the prior art, and it is an object of the present invention to provide a cosmetic brush and a method of fixing tuft of bristles of said cosmetic brush, which can prevent twist of a tuft of bristles, when the tuft of bristles is rotated in the liquid cosmetics having high-viscosity upon screw-coupling a cap and a cosmetic container with each other, since the tuft of bristles implanted in an end of a stem is firmly fixed by means of a cylindrical-shaped metal member.

To achieve the above object, according to one aspect of the present invention there is provided a cosmetic brush including; a cylindrical cap; and a upright-standing stem formed at the inner center of the cap and having a tuft of bristles, which has an adhesive portion formed at an end thereof, inserted into an end of the stem, the tuft of bristles being fixed inside the stem by means of a pressurized point formed by punching the outer periphery of the stem, wherein a cylindrical-shaped metal member is coupled around the outer periphery of the lower portion of the tuft of bristles and is pressurized so that both ends of the cylindrical-shaped metal member is overlapped by a predetermined width, to thereby fix the tuft of bristles inside the cylindrical-shaped metal member, the cylindrical-shaped metal member being formed by rolling a metal piece, and wherein the pressurized point is formed by punching the outer periphery surface of the stem after inserting the cylindrical-shaped metal member inside the stem, so that the tuft of bristles and the cylindrical-shaped metal member are firmly fixed inside the stem.

According to another aspect of the present invention, there is also provided a method of fixing a tuft of bristles of a cosmetic brush, the method including the steps of; processing a thin metal plate with a press so that quad-

rilateral metal pieces are continuously formed in such a manner as to be connected with the metal plate by means of a narrowed connecting plate; primarily bending the metal pieces with a press such that both ends of the metal piece are to be bent; secondarily bending the metal pieces so that the metal piece bent at both ends thereof is pressurized to be formed in a semicircular shape; tertiarily bending the metal pieces so that the metal piece bent in the semicircular shape is further pressurized to be formed in a circular shape in such a manner as to be overlapped at both ends thereof by a certain width; inserting the tuft of bristles into the cylindrical-shaped metal member after cutting the connecting plate and removing the cylindrical-shaped metal member from the metal plate; fixing the tuft of bristles inside the cylindrical-shaped metal member in such a manner that the outer periphery surface of the cylindrical-shaped metal member is pressurized, so that both ends thereof is overlapped to tighten the lower portion of the tuft of bristles; and fixing and pressing the cylindrical-shaped metal member such that a pressurized point is formed by punching the outer periphery surface of the stem so as to be protruded toward inside the stem, after the cylindrical-shaped metal member, in which the tuft of bristles is fixed, is inserted into a coupling hole formed inside the stem.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] The above and other objects, features and advantages of the present invention will be apparent from the following detailed description of the preferred embodiments of the invention in conjunction with the accompanying drawings, in which:

[0010] FIGS. 1a to 1c are cross-sectional views of the conventional invention;

[0011] FIG. 2 is a perspective view showing a state where a tuft of bristles is mounted to a cylindrical-shaped metal member according to the present invention;

[0012] FIG. 3 is a cross-sectional view showing a state where the tuft of bristles is coupled to a stem according to the present invention;

[0013] FIG. 4 is a perspective view showing a state where the cylindrical-shaped metal member is separated from the tuft of bristles according to the present invention;

[0014] FIG. 5 is an exploded perspective view of another embodiment of the present invention;

[0015] FIG. 6 is a perspective view of another embodiment of the present invention;

[0016] FIG. 7 is an exploded perspective view showing a state where the tuft of bristles is separated from the stem according to another embodiment of the present invention;

[0017] FIG. 8 is a cross-sectional view showing a state where two elements of FIG.7 are coupled to each other;

[0018] FIGS. 9a to 9h are perspective views of steps in which the cylindrical-shaped metal member is coupled to the tuft of bristles and then they are fixed to the stem in order; and

[0019] FIG. 10 is a perspective view showing a state where the present invention is used according to the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0020] Reference will now be made in detail to the preferred embodiments of the present invention, examples of which are illustrated in the accompanying drawings.

[0021] As shown in FIGS. 2 to 4, a cosmetic brush 1 according to the present invention includes a cylindrical cap 10, and a stem I 1 implanted with a tuft of bristles 20.

[0022] That is, the stem 12 is vertically erected at the center of the inner surface of the cap 10, and the tuft of bristles 20 is inserted into a coupling hole 12 formed on an end of the stem 11. At this time, an adhesive portion 21 where an adhesive agent is coated and hardened is formed in the lower portion of the tuft of bristles 20.

[0023] The tuft of bristles 20 inserted into the inside the stem 11 is fixed inside the stem 11 by means of a pressurized point 11 a formed by punching the outer periphery surface of the stem 11.

[0024] The cap 10 is constructed such that a cosmetic container 2 is screw-coupled with the cap 10 at the opening thereof, to thereby conveniently carry it in a state where the stem 11 and the tuft of bristles 20 are kept in the cosmetic container 2.

[0025] A cylindrical-shaped metal member 30, which is formed by rolling the metal piece 30a, is coupled around the outer periphery surface of the lower portion of the tuft of bristles 20, in such a manner as to be pressurized to be overlapped at both ends thereof, to thereby allowing the tuft of bristles 20 to be firmly fixed inside the cylindrical-shaped metal member 30.

[0026] Of course, depending on circumstances, it is possible with the cylindrical-shaped member 30 to be used, by rolling up a plate made of synthetic resin. At this time, materials of the cylindrical-shaped member 30 are not limited in the present invention, since the plate made of synthetic resin is heated and rolled up before it is hardened, so that it can firmly fix the middle portion of the tuft of bristles 20.

[0027] The cylindrical-shaped metal member 30 is pressurized by means of the pressurized point 11a, which is protruded toward inside the stem 11 when punching the outer periphery surface of the stem 11, after inserted into the coupling hole 12 formed inside the stem 11, to thereby allow the cylindrical-shaped metal member 30 and the tuft of bristles 20 to be firmly fixed inside the stem 11.

[0028] That is, the stem 11 is pressurized so that the pressurized portion of the cylindrical-shaped metal member 30 is pressed in a shape of an ellipse, whereby the cylindrical-shaped metal member 30 is firmly fixed inside the stem 11.

[0029] The cylindrical-shaped metal member 30 is

made of materials of non-harmful to a human body such as stainless or copper, depending on circumstances, however, it is possible with copper coated with silver to be used.

[0030] In the present invention having the structure described above, the cylindrical-shaped metal member 30 inserted into the coupling hole 12 formed inside the stem 11 is firmly fixed by means of the pressurized point 11a formed by punching the outer periphery surface of the stem 11, and the tuft of bristles 20 is fastened by means of the cylindrical-shaped metal member 30. So, only the part of the tuft of bristles 20, which has a shortened length coming out from an end of the stem 1, remains freely. And thus, when screw-coupling the cap 10 and the upper portion of the cosmetic container 2 with each other, the part of the tuft of bristles 20 which is inserted into the coupling hole of the stem 11 is firmly fixed by means of the cylindrical-shaped metal member 30, to thereby prevent twist of the tuft of bristles 20 positioned inside the coupling hole 12 of the stem 11, although the tuft of bristles 20 is rotated in a liquid cosmetics having high-viscosity, and otherwise, although the part of the tuft of bristles 20 coming out from the end of the stem 11 is rotated, it is returned to the original shape thereof due to a restoration force and remains the initial state thereof.

[0031] Accordingly, problems such as twist of tuft of bristles and the like are prevented, so that the liquid cosmetics is applied with accuracy, to thereby increase the competitive power of the cosmetic brush 1 in world markets. In addition, as the adhesive portion 21, by means of which the tuft of bristles 20 is fastened in the prior art, is fixed inside the stem 11, conventional problems such as where the whole length of the tuft of bristles 20 is lengthened can be solved. And thus, since the tuft of bristles 20 of the present invention, which is not twisted due to the restoration force against the liquid cosmetics and the restoration force of which is improved epoch-makingly, allows the liquid cosmetics to be applied with accuracy, there are several advantages in that high-quality cosmetic brush is provided to users, and the like.

[0032] Furthermore, since the cylindrical-shaped metal member 30 is inserted into the whole of the coupling hole 12 of the stem 11, a point to be punched is formed broadly so that the pressurized point 11 a can press the cylindrical-shaped metal member 30 with accuracy at all times and firmly fix it, to thereby minimize an inferior rate due to the punching operation, although any part of the outer periphery surface of the stem 11 is punched. Also, the cylindrical-shaped metal member 30 is firmly fixed, when being pressurized by means of the pressurized point 11 a, to thereby effectively prevent problems such as where the cylindrical-shaped metal member 30 is separated from the coupling hole 12 of the stem 11, and the like.

[0033] In addition, there are several advantages in that since both ends of the cylindrical-shaped metal member 30 are overlapped to tighten strongly the tuft of bristles 20, the tuft of bristles 20 is firmly fixed inside the cylindrical-shaped metal member 30, so that it can prevent the bristles from being pulled out of the tuft of bristles 20, and in that more bristles are implanted in an end of the stem 11 by tightening strongly the tuft of bristles 20 by means of the cylindrical-shaped metal member 30, thereby increasing make-up efficiency as much as possible.

[0034] There are additional advantages in that since the cylindrical-shaped metal member 30 described above is made of silver or copper which has been well known to have antibacterial power and germicidal power, harmful bacteria are sterilized by the strong antibacterial power, although being infected from the outside, when using the liquid cosmetic.

[0035] Meanwhile, depending on circumstances, it is possible with the both of the cylindrical-shaped metal member 30 to have protruding portions and coupling grooves to be coupled with each other.

[0036] That is, as shown in FIGS. 5 to 8, the cylindrical-shaped metal member 30 is formed with the protruding portions 31a, 32a and the coupling grooves 31b, 32b in series at the both sides of the metal piece 30a. At this time, the metal piece 30a is rolled up around the outer periphery surface of the tuft of bristles 20, so that the protruding portion 32a and the coupling groove 32b formed at one side of the metal piece 30a are coupled with the coupling groove 33b and the protruding portion 33a formed at the other side of the metal piece 30a, respectively, to thereby allow the cylindrical-shaped metal member 30 to fasten the tuft of bristles 20. Also, the cylindrical-shaped metal member 30 inserted inside the stem 11 to be fixed by means of the pressurized point 11a formed by punching the outer periphery surface of the stem 11.

[0037] The method of fixing the tuft of bristles 20 into the coupling hole 12 formed inside the stem 11 will be described as follows.

[0038] As shown in FIGS. 9a to 9b, a thin metal plate 31 is press-punched after positioning between an upper and a lower mold, so that quadrilateral metal pieces 30a are continuous formed in such a manner as to be connected with the metal plate 31 by means of a narrowed connecting plate 31a.

[0039] Subsequently, as shown in FIG. 9c, the metal piece 30a is formed by bending press so that both ends of the metal piece 30a are bent.

[0040] Subsequently, as shown in FIG. 9d, the metal piece 30a bent at its both ends is pressurized to be formed in a semicircular shape.

[0041] Subsequently, as shown in FIG. 9e, the metal piece 30a bent in a semicircular shape is further pressurized to be formed in a circular shape in such a manner as to be overlapped at both ends thereof in some degree.

[0042] Subsequently, as shown in FIG. 9f, the tuft of bristles 20 is inserted inside the cylindrical-shaped metal member 30 after incising the connecting plate 31a and removing the cylindrical-shaped metal member 30 from the metal plate 31.

[0043] Subsequently, as shown in FIG. 9g, the outer

periphery surface of the cylindrical-shaped metal member 30 is pressurized so that both ends thereof is overlapped to fasten the lower portion of the tuft of bristles 20 with large width, to thereby fix the tuft of bristles 20 inside the cylindrical-shaped metal member 30.

[0044] And subsequently, as shown in FIG. 9h, after the cylindrical-shaped metal member 30 with the tuft of bristles 20 fixed therein is inserted into the coupling hole 12 formed inside the stem 11, the outer periphery surface of the stem 11 is punched so that the pressurized point 11a is protruded toward inside the stem 11.

[0045] That is, the cylindrical-shaped metal member 30 is pressed and fixed by means of the pressurized point 11 a protruding toward inside the stem 11, so that the tuft of bristles 20 is fixed to the stem 11.

[0046] While the present invention has been described with reference to the particular illustrative embodiments, it is not to be restricted by the embodiments but only by the appended claims. It is to be appreciated that those skilled in the art can change or modify the embodiments without departing from the scope and spirit of the present invention.

Claims

1. A cosmetic brush 1 comprises;
   a cylindrical cap 10; and
   a upright-standing stem 11 formed at the inner center of the cap 10 and having a tuft of bristles 20, which has an adhesive portion 21 formed at an end thereof, inserted into an end of the stem 11, the tuft of bristles being fixed inside the stem 11 by means of a pressurized point 11 a formed by punching the outer periphery of the stem 11;
   wherein a cylindrical-shaped metal member 30 is coupled around the outer periphery of the lower portion of the tuft of bristles 20 and is pressurized so that both ends of the cylindrical-shaped metal member 30 is overlapped by a predetermined width, to thereby fix the tuft of bristles 20 inside the cylindrical-shaped metal member 30, the cylindrical-shaped metal member 30 being formed by rolling a metal piece 30a; and
   wherein the pressurized point 11 a is formed by punching the outer periphery surface of the stem 11 after inserting the cylindrical-shaped metal member 30 inside the stem 11, so that the tuft of bristles and the cylindrical-shaped metal member 30 are firmly fixed inside the stem 11.

2. The cosmetic brush according to claim 1, wherein the cylindrical-shaped metal member 30 is formed with protruding portions 31a, 32a and coupling grooves 31b, 32b in series at the both sides of the metal piece 30a, and wherein the metal piece 30a is rolled up around the outer periphery surface of the tuft of bristles 20, so that the protruding portion 32a and the coupling groove 32b formed at one side of the metal piece 30a are coupled with the coupling groove 33b and the protruding portion 33a formed at the other side of the metal piece 30a, respectively, to thereby allow the cylindrical-shaped metal member 30 to fix the tuft of bristles 20, as well as allow the cylindrical-shaped metal member 30 inserted inside the stem 11 to be fixed by means of the pressurized point 11 a formed by punching the outer periphery surface of the stem 11.

3. A method of fixing a tuft of bristles of a cosmetic brush, the method comprises the steps of;
   processing a thin metal plate 31 with a press so that quadrilateral metal pieces 30a are continuously formed in such a manner as to be connected with the metal plate 31 by means of a narrowed connecting plate 31 a;
   primarily bending the metal pieces 30a with a press such that both ends of the metal piece 30a are to be bent;
   secondarily bending the metal pieces 30a so that the metal piece 30a bent at both ends thereof is pressurized to be formed in a semicircular shape;
   tertiarily bending the metal pieces 30a so that the metal piece 30a bent in the semicircular shape is further pressurized to be formed in a circular shape in such a manner as to be overlapped at both ends thereof in some degree;
   inserting the tuft of bristles 20 into the cylindrical-shaped metal member 30 after cutting the connecting plate 31a and removing the cylindrical-shaped metal member 30 from the metal plate 31;
   fixing the tuft of bristles 20 inside the cylindrical-shaped metal member 30 in such a manner that the outer periphery surface of the cylindrical-shaped metal member 30 is pressurized, so that both ends thereof is overlapped to tighten the lower portion of the tuft of bristles 20; and
   fixing and pressing the cylindrical-shaped metal member 30 such that a pressurized point 11 a is formed by punching the outer periphery surface of the stem 11 so as to be protruded toward inside the stem 11, after the cylindrical-shaped metal member 30, in which the tuft of bristles 20 is fixed, is inserted into a coupling hole formed inside the stem 11.

Fig 1a(Prior Art)

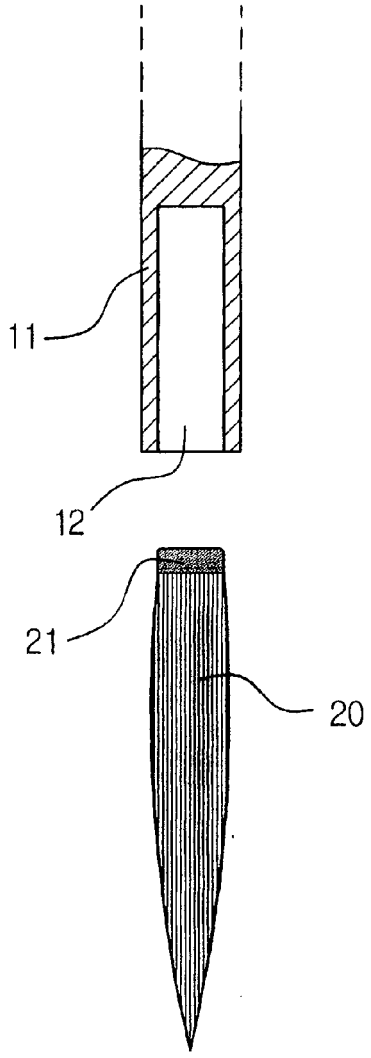


Fig 1b(Prior Art)

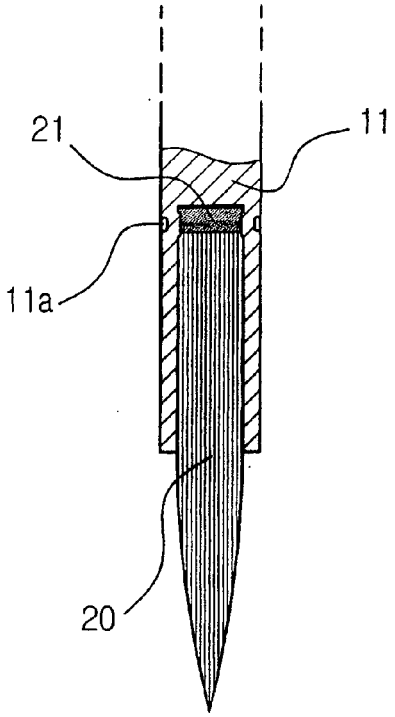


Fig 1c(Prior Art)

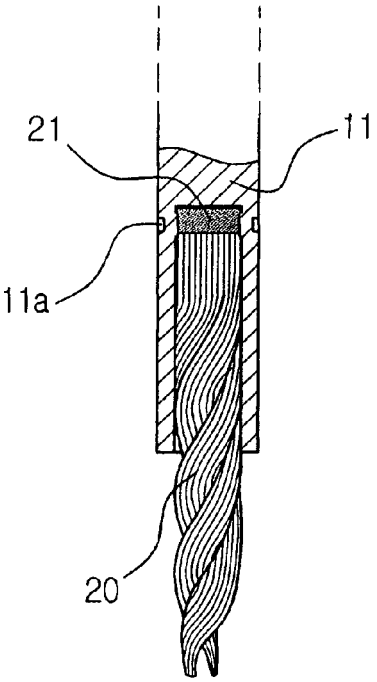


Fig 2

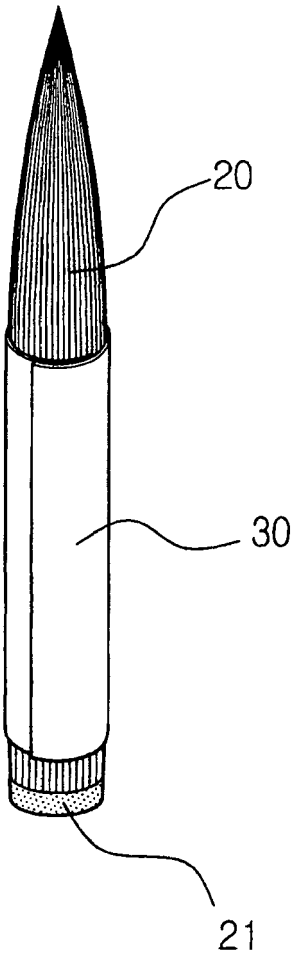


Fig 3

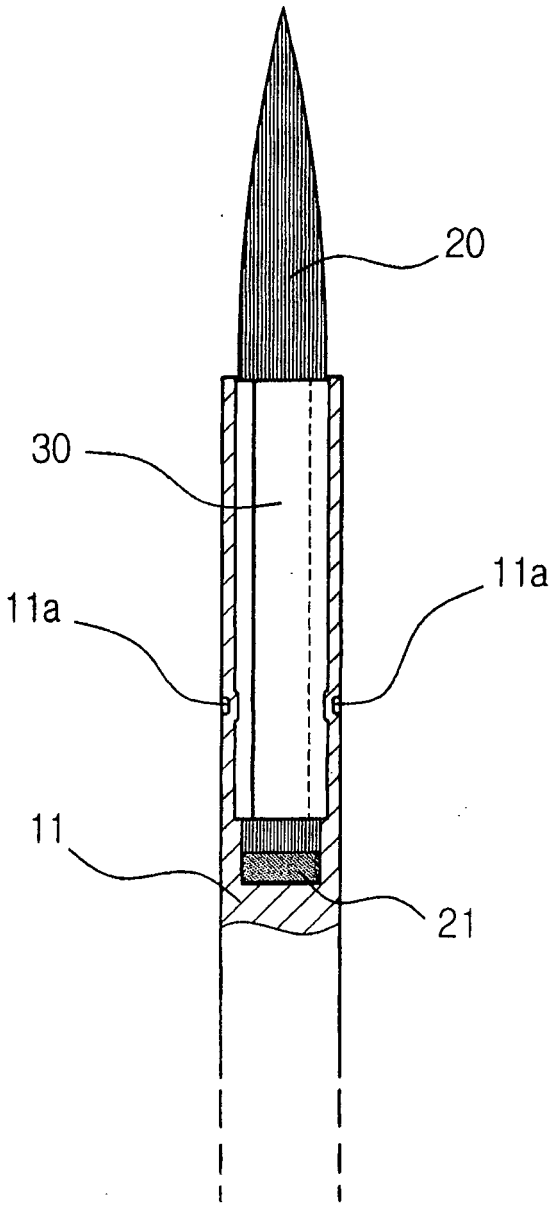


Fig 4

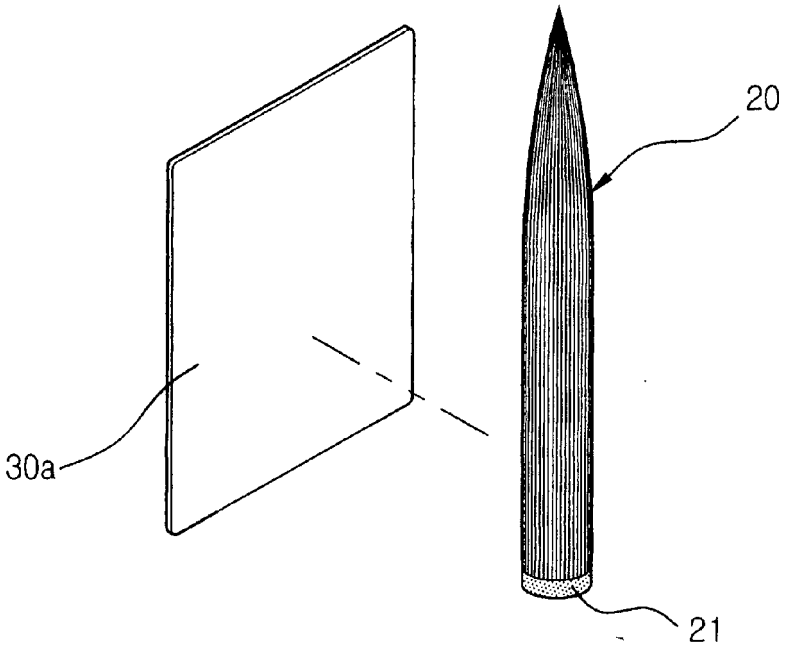


Fig 5

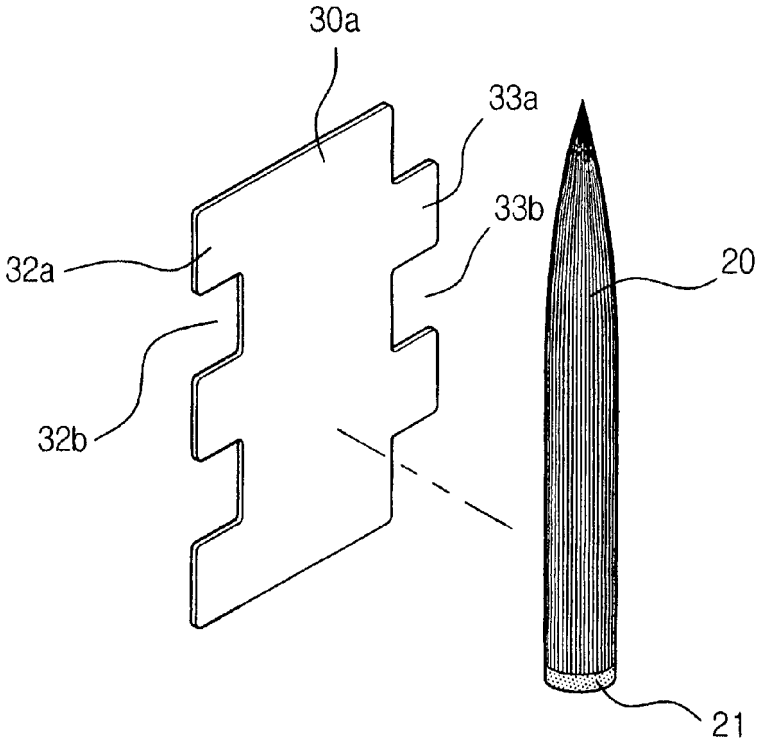


Fig 6

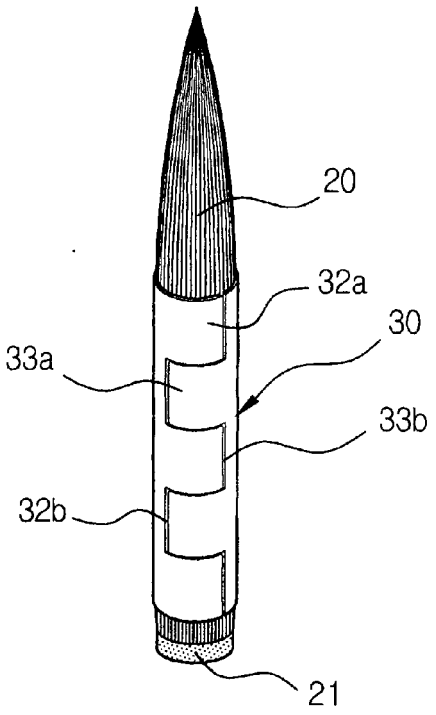


Fig 7

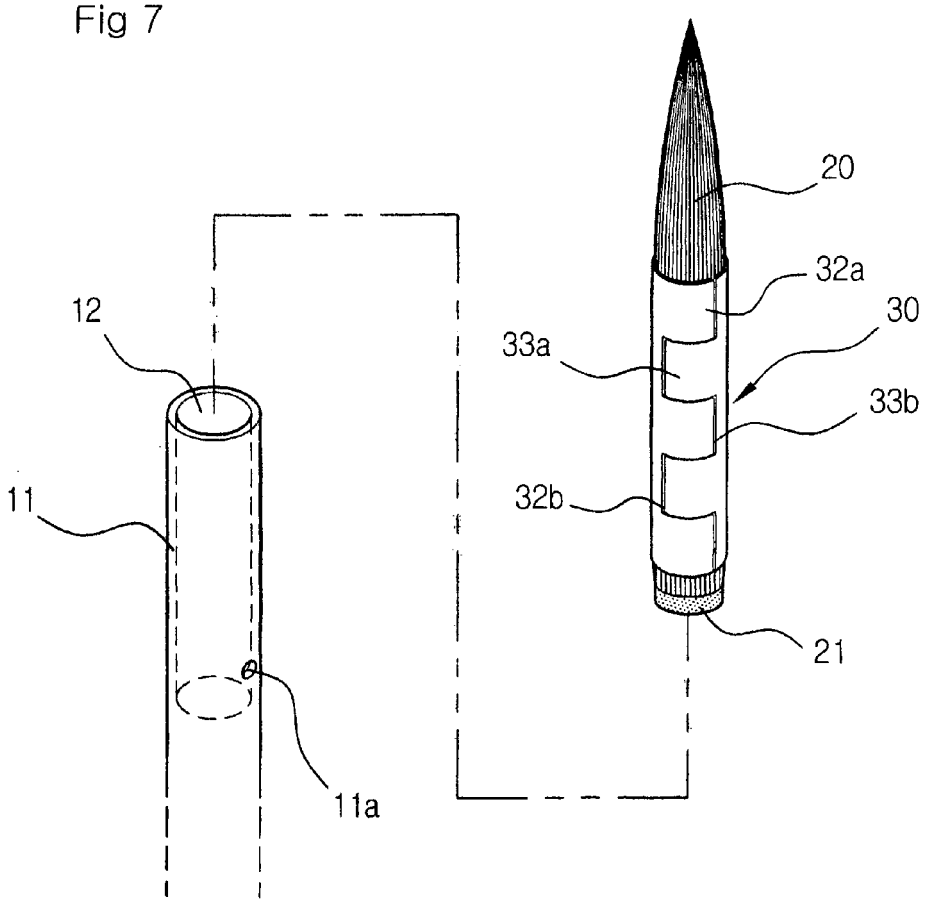


Fig 8

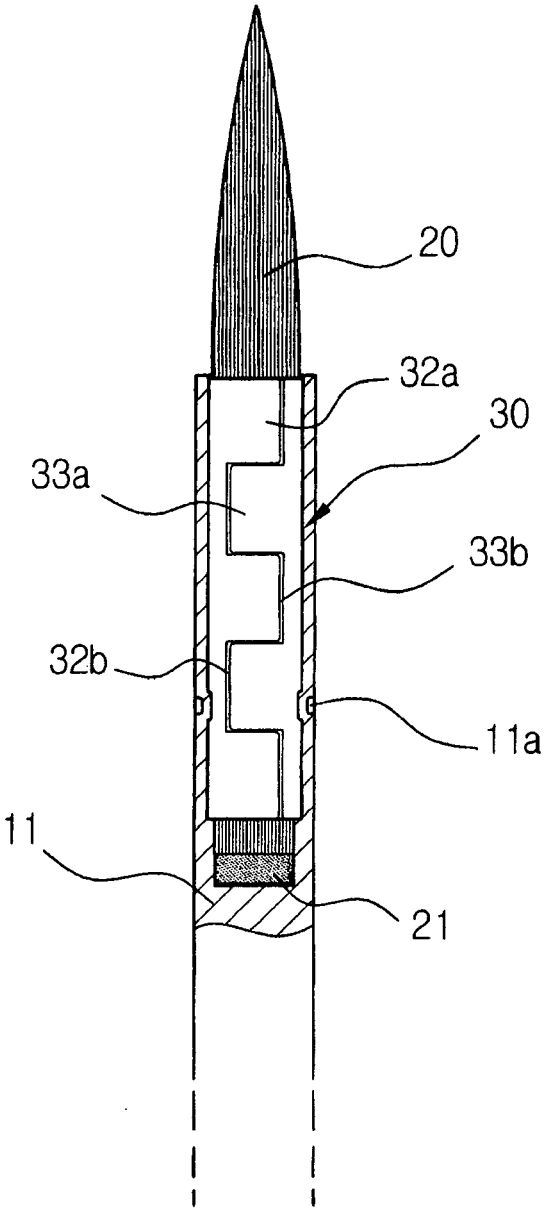


Fig 9a

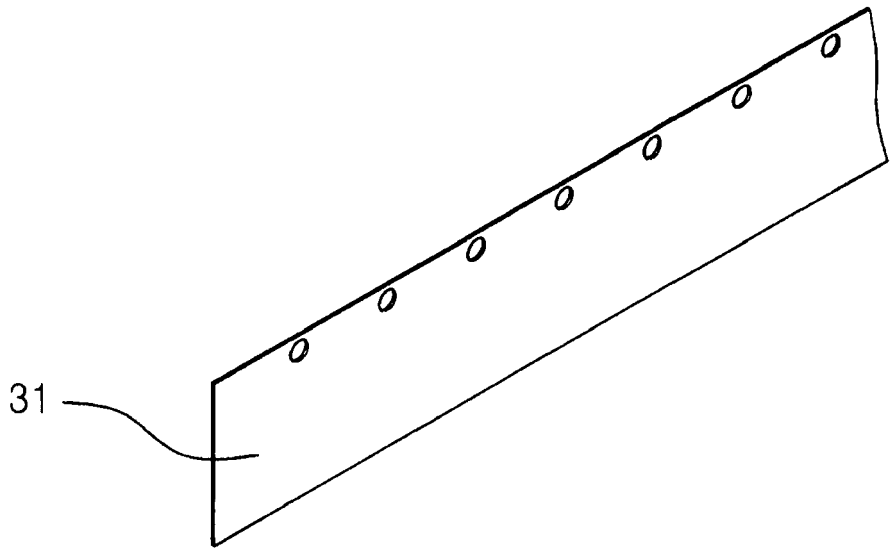


Fig 9b

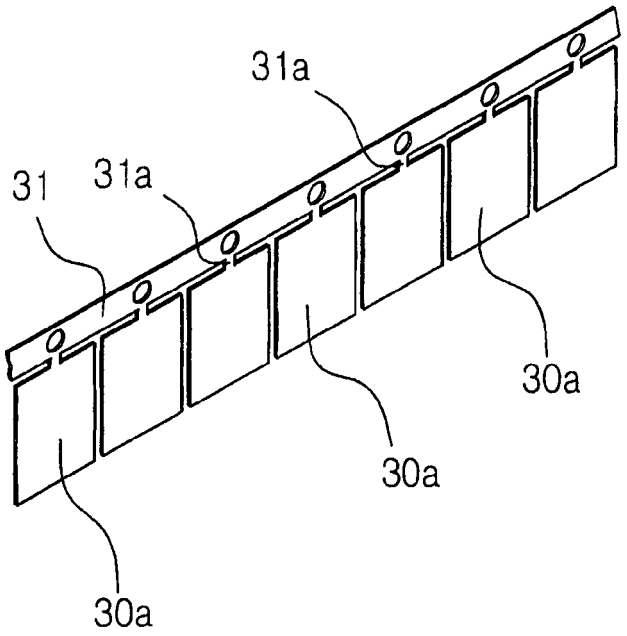


Fig 9c

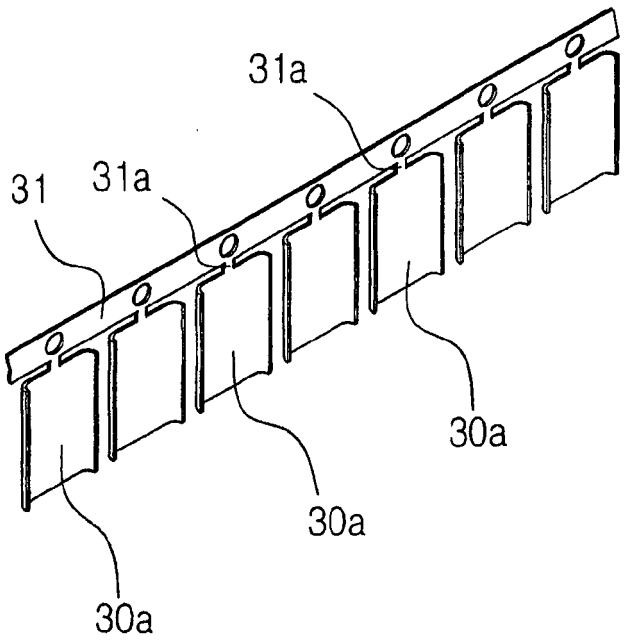


Fig 9d

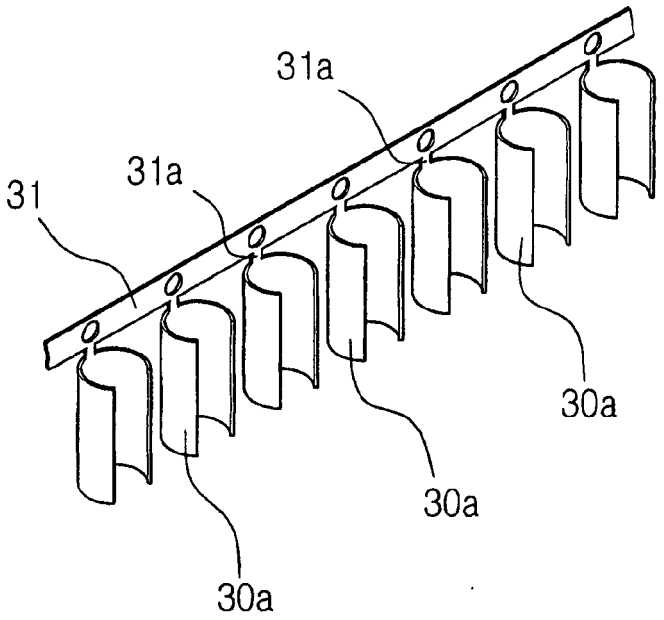


Fig 9e

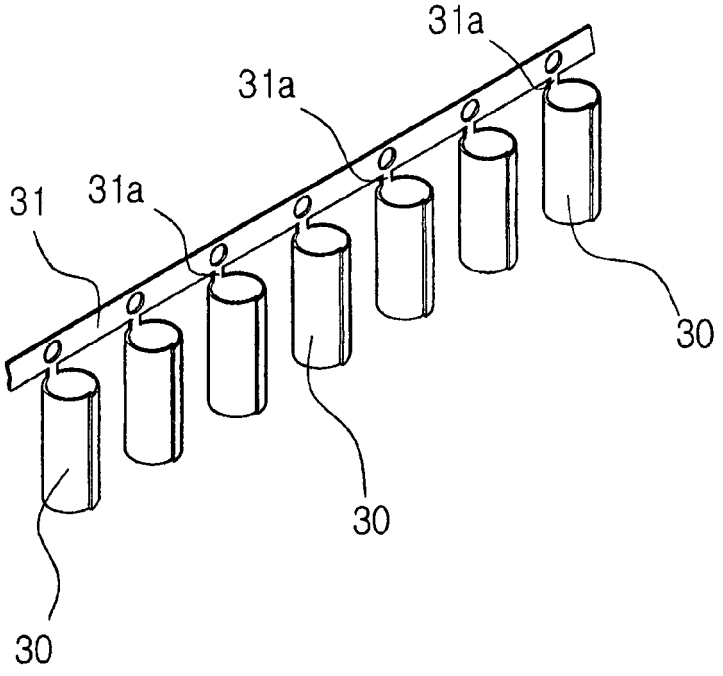


Fig 9f

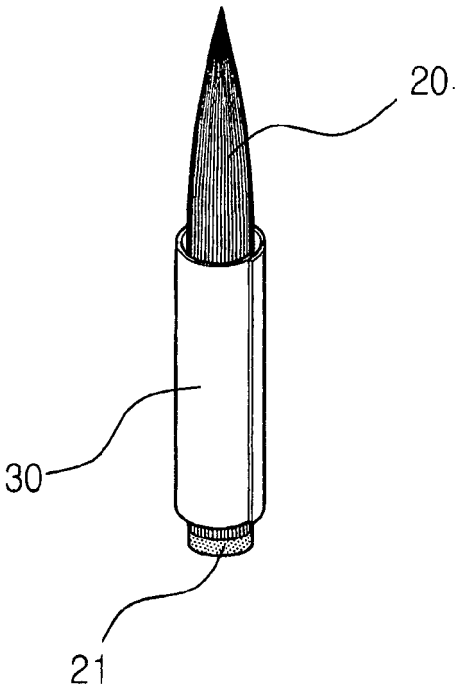


Fig 9g

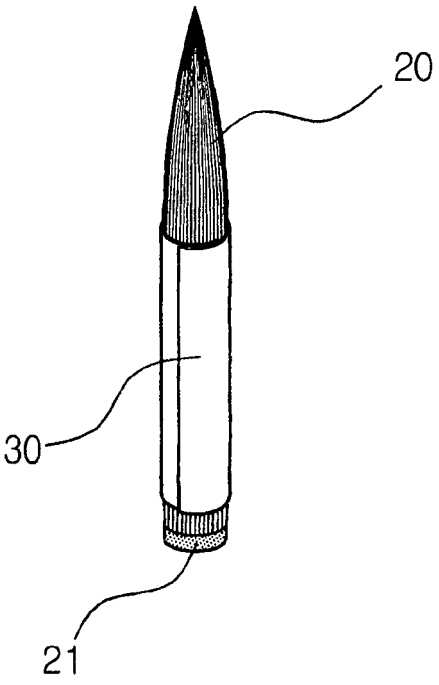


Fig 9h

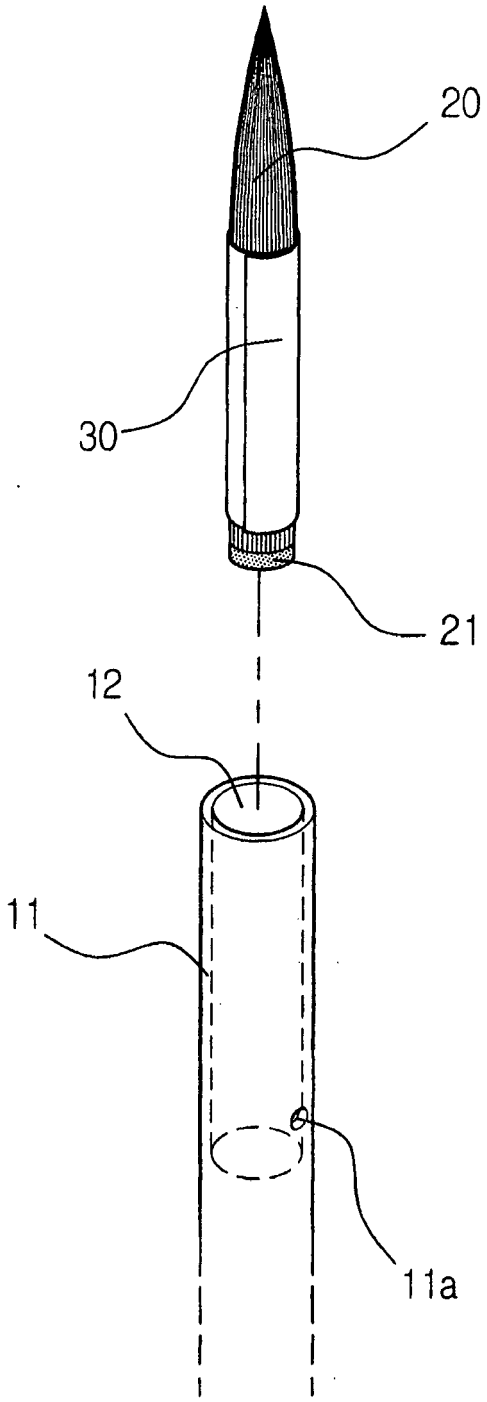
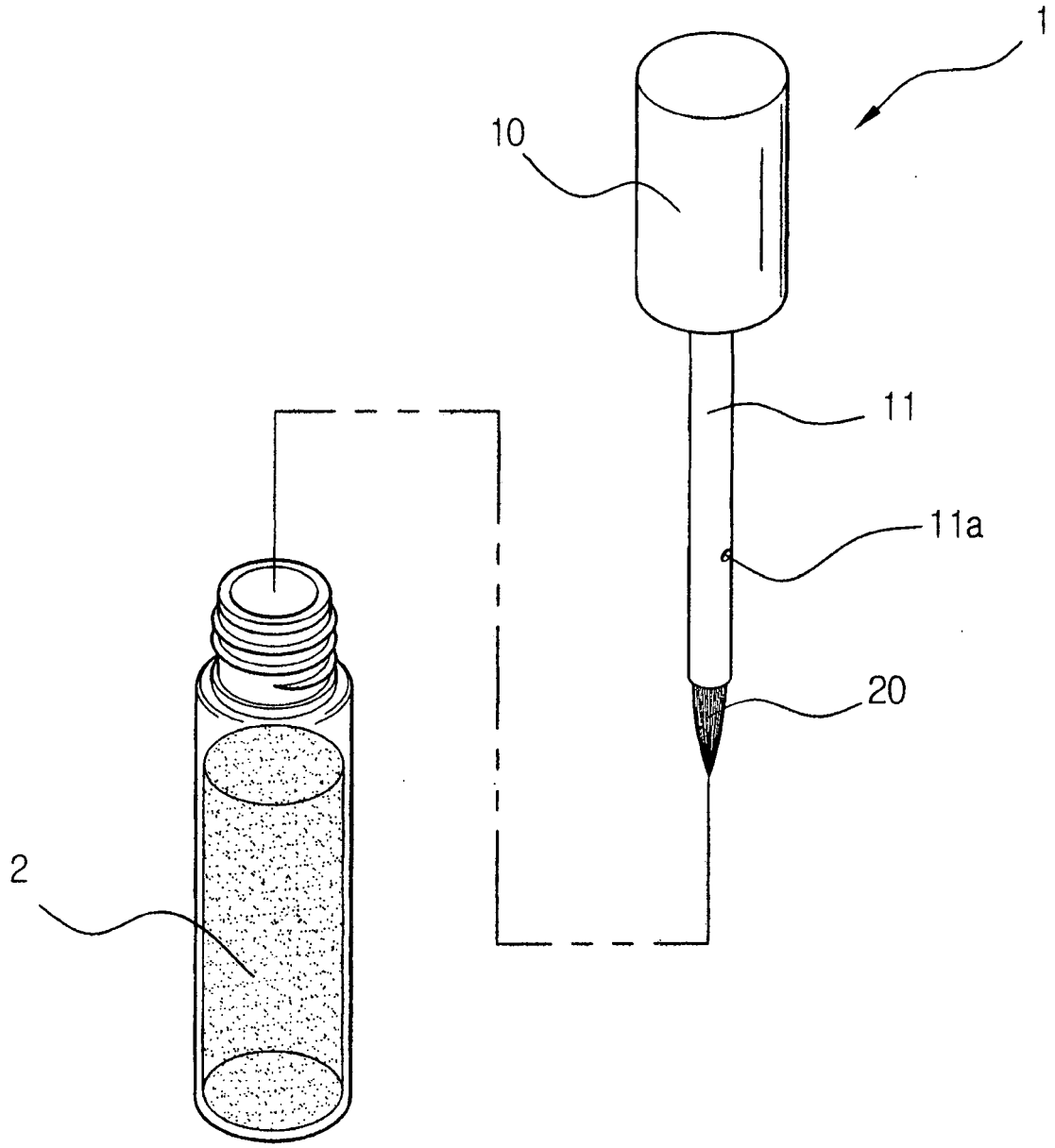


Fig 10



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EUROPEAN SEARCH REPORT

Application Number
EP 06 00 7275

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