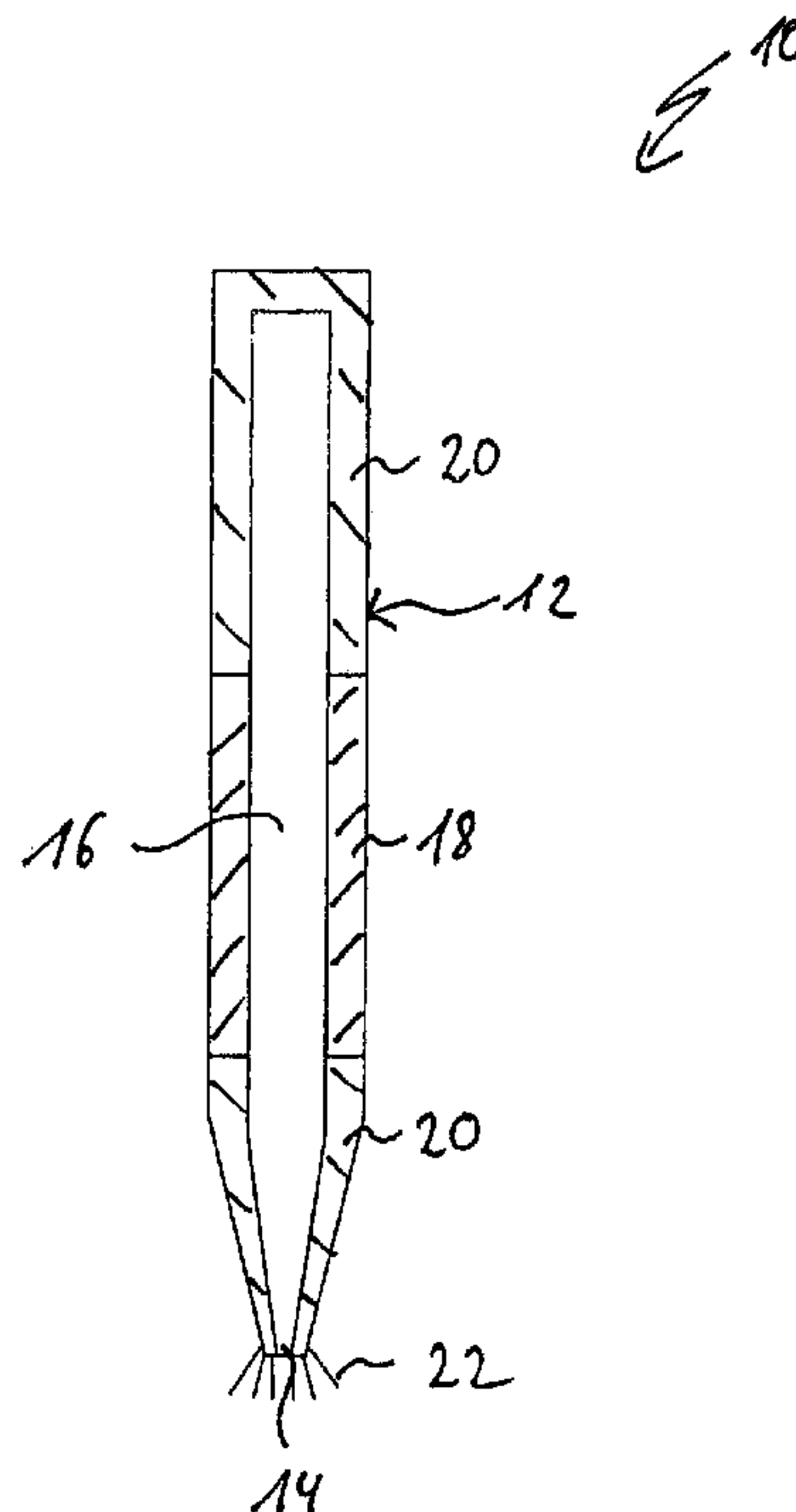




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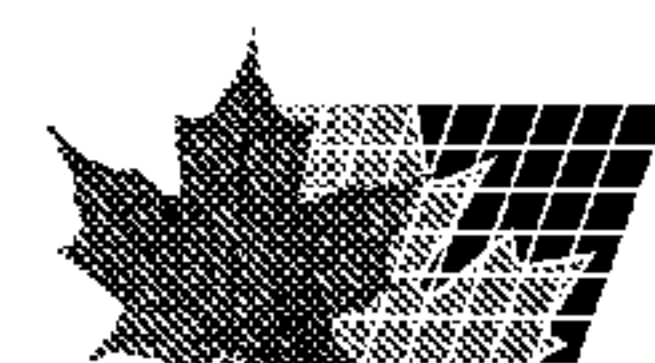
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(54) **Titre : UN APPAREIL DESTINE A APPLIQUER UNE SUBSTANCE FLUIDE**  
(54) **Title: AN APPARATUS FOR APPLYING A FLUID SUBSTANCE**



(57) **Abrégé/Abstract:**

The invention relates to an apparatus for applying a free-flowing substance, comprising a one-piece pipetting tube (12) which is manufactured from plastic, has an exit orifice (14) leading to the environment at one end and is closed at the other end. In the region of the exit orifice (14), an application device (22) which can be charged with the free-flowing substance is provided.





**Abstract**

The invention relates to an apparatus for applying a free-flowing substance, comprising  
5 a one-piece pipetting tube (12) which is manufactured from plastic, has an exit orifice  
(14) leading to the environment at one end and is closed at the other end. In the region  
of the exit orifice (14), an application device (22) which can be charged with the free-  
flowing substance is provided.

10 (FIG. 1)



### **An Apparatus for Applying a Fluid Substance**

5 The invention relates to an apparatus for applying a fluid substance comprising a pipetting tube manufactured from plastics, one end of which has a delivery orifice leading to the environment.

Such pipettes are known in practice, they finding application especially in the laboratory for pipetting or spotting fluid substances. As a rule the delivery orifice is arranged at the  
10 bottom end of a substantially tapered portion of the pipetting tube configured as one-piece plastics item. However, using such spotting pipetting tubes makes it difficult to paint a site with the fluid substance to be applied.

This is why the invention is based on the object of providing an apparatus of the generic type as aforementioned which now permits painting the fluid substance to be applied.

15 Consequently, the subject matter of the invention involves an apparatus for applying a fluid substance comprising a pipetting tube manufactured from plastics in one piece, one end of which has a delivery orifice leading to the environment and its other end is closed off. In the region of the delivery orifice an application device which is wetted with the fluid substance is provided, wherein said pipetting tube (12) is configured as a  
20 two-component injection-molded part wherein a first portion (18) of the pipetting tube serving to deliver the fluid substance is made of a elastically deformable plastic and a second portion (20) comprises the delivery orifice (14) and is made of a hard plastic.

By the application device arranged in the delivery orifice which can be wetted with the fluid substance held in the pipetting tube the fluid substance can now be painted on the  
25 site. The apparatus in accordance with the invention is thus particularly suitable for painting application of a fluid substance.

In one preferred embodiment of the apparatus in accordance with the invention the application device constitutes a flock of the pipetting tube which is wetted with the fluid



substance on delivery from the inner space.

- 5 As an alternative or in addition thereto the application device may comprise a paintbrush tuft injection-molded to the face of the pipetting tube encompassing the delivery orifice.

The paintbrush tuft may be configured in many different ways, it particularly being formed by at least one circular chaplet molded to the face of the pipetting tube  
10 encompassing the delivery orifice.

One example embodiment of the apparatus in accordance with the invention is shown diagrammatically simplified in the drawing as detailed in the following wherein

FIG. 1 is a longitudinal section through a flocked pipette; and

FIG. 2 is a second embodiment of a pipetting apparatus configured in accordance with  
15 the invention.

Shown in the drawing is an apparatus 10 configured as a pipette for painting a site for instance a dental tooth stump with a fluid substance. The apparatus 10 comprises a pipetting tube 12 ending in a delivery orifice 14 and closed off at the other end opposite the delivery orifice 14. In addition, the pipetting tube 12 comprises an interior space 16  
20 in fluid communication with the delivery orifice 14.

The pipetting tube 12 is a two-component injection molded part comprising a first portion 18 made of a elastically deformable, flexible plastic and two second portions 20 each adjoining the first portion 18 and made of a hard plastic. The second portion 20



bottoming the first portion 18 and incorporating the delivery orifice 14 is tapered in the direction of the delivery orifice 14. A fluid substance held in the interior space 16 can be delivered by the user squeezing the first portion 18 to force the fluid substance through the delivery orifice 14 from the pipetting tube 12.

- 5 Furthermore adjoining the delivery orifice 14 rimming the pipetting tube 12 is a flock 22 applied to the second portion 20 of the pipetting tube 12 and which is wetted with the fluid substance from the interior space 16 by the user squeezing the first portion 18. Painting the site with the fluid substance is then done by the flock 22.

Also feasible is to design the pipetting tube 12 in its portion comprising the delivery  
10 orifice with a, for example, tubular metal inlay which, on the one hand, stabilizes the pipetting tube 12 and, on the other, may be part of the application device.

In an alternative embodiment of an apparatus 10' in accordance with the invention a pipetting tube 12' made of a flexible, elastic plastic featuring a flock 22 in the region of its delivery orifice is sleeved by an outer tube 24 made of a hard plastic or metal. The  
15 outer tube 24 has two scallops 26A and 26B for receiving the finger tips of a user squeezing the inner pipetting tube 12' made of a flexible, elastic plastic so that the fluid substance can be delivered from the pipetting tube 12' for application.



**List of reference numerals**

|    |       |                  |
|----|-------|------------------|
|    | 10    | pipette          |
| 5  | 12    | pipetting tube   |
|    | 14    | delivery orifice |
|    | 16    | inner space      |
|    | 18    | first portion    |
|    | 20    | second portion   |
| 10 | 22    | flock            |
|    | 24    | outer tube       |
|    | 26A,B | scallops         |



### Claims

1. An apparatus for applying a fluid substance comprising a pipetting tube (12) manufactured from plastics in one piece, one end of which has a delivery orifice (14) leading to the environment and its other end is closed off, characterized in that in the region of the delivery orifice (14) an application device (22) which is wetted with the fluid substance is provided, wherein said pipetting tube (12) is configured as a two-component injection-molded part wherein a first portion (18) of the pipetting tube serving to deliver the fluid substance is made of an elastically deformable plastic and a second portion (20) comprises the delivery orifice (14) and is made of a hard plastic.
2. The apparatus as set forth in claim 1, characterized in that said application device constitutes a flock of the pipetting tube (12) which is wetted with the fluid substance on delivery from the inner space (16).
3. The apparatus as set forth in claim 1, characterized in that said application device comprises a paintbrush tuft injection-molded to the face of the pipetting tube encompassing the delivery orifice.
4. The apparatus as set forth in claim 3, characterized in that said paintbrush tuft is formed by at least one chaplet.
5. The apparatus as set forth in any one of the claims 1 to 4, characterized in that said pipetting tube (12') is arranged in an outer tube (24) comprising at least two scallops (26A, 26B) for the user to squeeze the pipetting tube (12').



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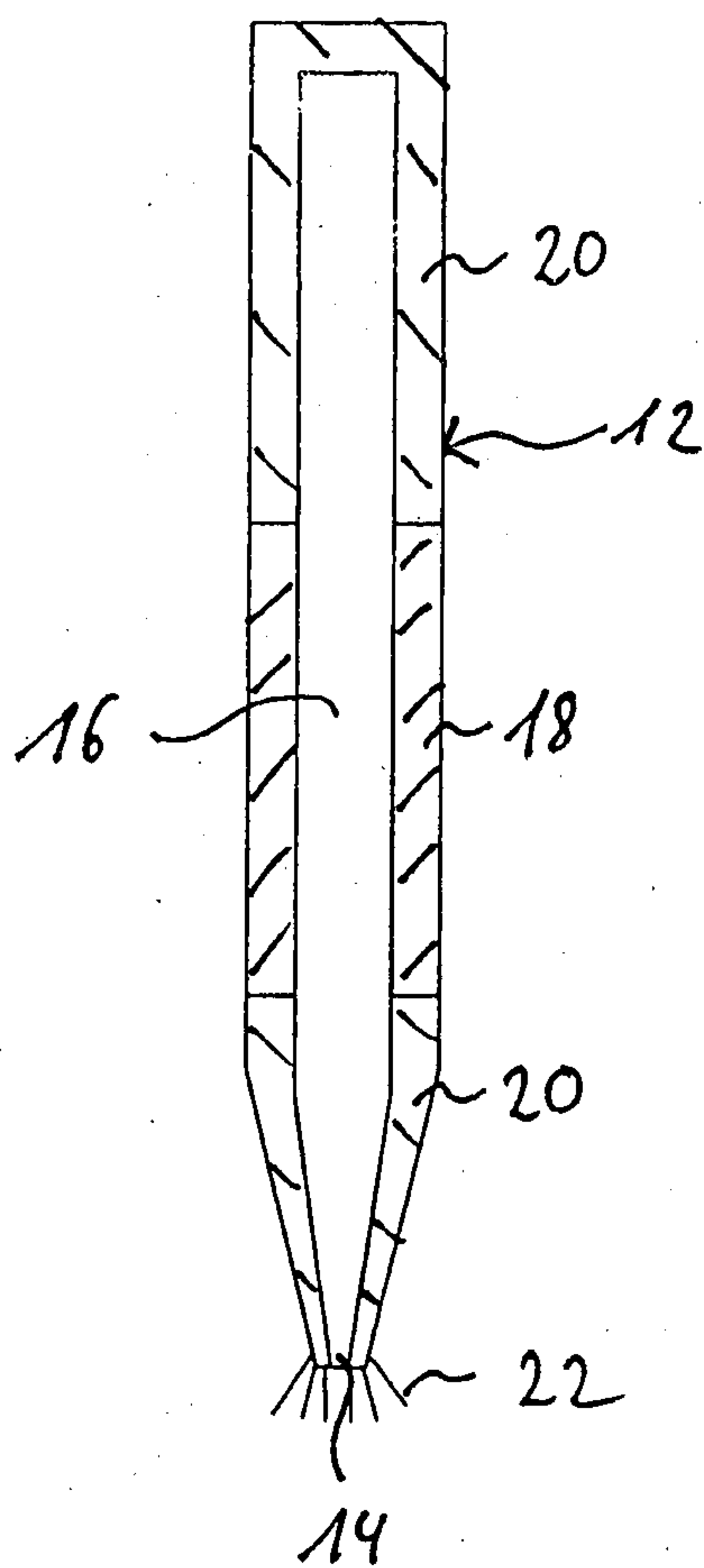


Fig. 1



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10'

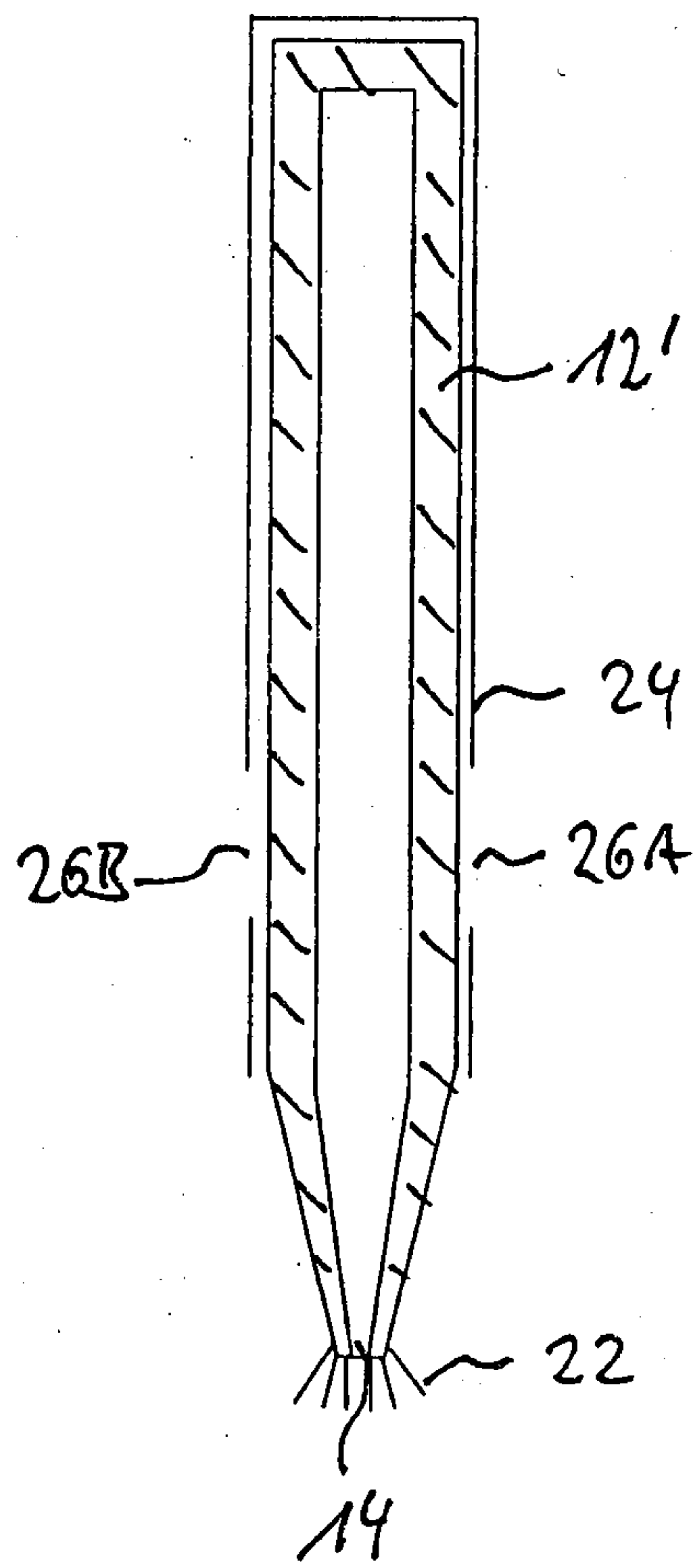


Fig. 2



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