

12 **EUROPEAN PATENT APPLICATION**

21 Application number: **87110433.7**

51 Int. Cl.4: **A45D 34/04**

22 Date of filing: **18.07.87**

30 Priority: **21.07.86 US 887395**

43 Date of publication of application:
27.01.88 Bulletin 88/04

84 Designated Contracting States:
DE FR GB IT SE

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54 **Nail polish applicator.**

57 An applicator tip for applying nail polish comprising:

(a) an elongated fibrous mass forming a shaped body having a first end for applying nail polish, a second end for insertion into a nail polish reservoir, and two essentially parallel sides extending from said first end to said second end; and

(b) a relatively rigid protector disposed along said essentially parallel sides and said second end to prevent said shaped body from permanently deforming or splaying.

A pen-like device for containing and applying nail polish, to which the inventive applicator tip is attached is also disclosed.

EP 0 254 240 A2

NAIL POLISH APPLICATOR

This invention relates to an applicator tip for applying polish to finger nails and/or toe nails, and to a pen-like device containing the applicator tip.

In recent years pen-like nail polish application devices having a so-called felt tip for dispensing the polish have appeared on the market. The "felt tip" is a fibrous mass forming a shaped body that is more rigid than the traditional nail polish brush formed of long, flexible individual hairs. These felt-tip applicators are not entirely satisfactory because, after continued use, they lose their original shape and become permanently deformed or splayed. An example of such a prior-art felt-tip applicator is the Aziza Polishing Pen™. The splaying problem is aggravated by the fact that to load the tip with polish, one must push the felt tip against a firm surface to cause the tip to enter a polish reservoir. Such pushing tends to permanently deform the tip from its original shape.

A further disadvantage of prior-art felt-tip nail polish applicators is that they are not contoured to fit the surface of the nail, resulting in less than optimum coverage by the polish. Preferred embodiments of the present invention overcome these deficiencies.

U.S. Patents Nos. 2,399,162; 2,279,520; and 3,807,881 disclose various polish applicators. However, none disclose a felt-tip type applicator that overcomes the splaying problems or is optimally shaped to fit the contour of the nail.

With this invention the user is able to comfortably and accurately apply nail polish to the surface of the nail and not have problems associated with splayed and deformed applying tips because this invention provides a protector for the tips. The shape of the elongated protected applicator and its applying tip are not critical to the operation of this invention, but in its most preferred embodiment the shape of the applying tip is compatible with the nail for even distribution of the polish.

A clean, neat application of polish results from the use of the applicator of the present invention. Further, the user is able to have continuous dispensation of the nail polish material simply by causing the applicator of the invention to be retracted into a nail polish reservoir to load it with polish, then extending the loaded applying tip out of the reservoir. The retraction can be accomplished by various means, none of which are part of this invention, e.g. one can press the tip on a firm surface such as a table to push it into contact with the nail

polish in the reservoir where, by capillary action, the polish travels to the applying tip, or one can use various spring-latch-release devices in the handle of a pen-like device holding the reservoir.

This invention may be summarized as an applicator tip for applying nail polish comprising:

(a) an elongated fibrous mass forming a shaped body having a first end for applying nail polish, a second end for insertion into a nail polish reservoir, and two essentially parallel sides extending from said first end to said second end; and

(b) a relatively rigid protector disposed along said essentially parallel sides and said second end to prevent said shaped body from permanently deforming or splaying.

The invention is best described with reference to the accompanying drawings of which:

Figure 1 is an isometric view of a shaped fibrous body used in applying polish.

Figure 2 is an isometric view of an applicator tip in accordance with the invention.

Figure 3 is an exploded view of another embodiment of the inventive applicator tip.

Figure 4 is an isometric view of the applicator tip of Figure 3 assembled.

Figure 5 is an exploded view of yet another embodiment of the inventive applicator tip.

Figure 6 is an isometric view of the applicator tip of figure 5 assembled.

Figure 7 is an exploded view of still another embodiment of the inventive applicator tip.

Figure 8 is a isometric view of the applicator tip of figure 7 assembled.

Figure 9 is an isometric view of a preferred embodiment of a shaped fibrous body for use with the invention.

Figure 10 is a view of the shaped body of figure 9 fitted with a protector in accordance with the invention.

Figure 11 is a side view of the shaped body of figure 9.

Figure 12 is an isometric view of a pen-like nail polish applicator in accordance with the invention.

Figure 13 illustrates use of the device of figure 12 to apply nail polish.

Figure 1 shows an elongated fibrous mass that forms a shaped body 10. Shaped body 10, formed of, for example, felt fibers, has a first end 12 for applying nail polish and a second end 14 adapted for insertion into a nail polish reservoir, as described later. Shaped body 10 has two essentially parallel sides, only one of which is shown at 19. The the surfaces of the two essentially parallel sides may be flat or curved. In figure 1 first end 12,

for applying polish, is somewhat tapered and has a blunt end. This shape, or any other shape, is operable, but a preferred shape for the polish-applying end is shown in figures 9, 10, and 11.

In figure 2, the shaped body 10 of figure 1 is shown fitted with protector 24. The protector may be constructed of any relatively rigid material, i.e. a material that is more rigid than the shaped body. Suitable materials for the protector include molded, rigid plastic that is inert to nail polish, such as a thermosetting material. Metal, preferably aluminum or stainless steel, may also be used.

In the embodiment shown in figure 2, protector 24 is shaped like a flat-bottomed U. Arms 28 fit on the essentially parallel sides of shaped body 10 and flat bottom 26 fits on the second end 14 of shaped body 10.

Figure 3 shows an exploded view of the inventive applicator tip with another embodiment of the protector. Here the protector has a hollow circular member 26A adapted to fit over second end 14 of shaped body 10. As shown in figure 3, arms 28 extend along the essentially parallel sides of shaped body 10 from circular member 26A.

Figure 4 shows the parts of figure 3 assembled.

Figure 5 shows an exploded view similar to figure 3, but here the protector has a ring member 26B adapted to surround second end 14 of shaped body 10. Arms 28 extend from member 26B along the essentially parallel sides of the shaped body.

Figure 6 shows the parts of figure 5 assembled.

Figure 7 shows an exploded view of yet another embodiment of the shaped body 10A and protector 24A. Here substantially parallel sides (only one of which is shown in Figure 7 at 19A) are part of a circular cross section that is reduced in cross sectional, area compared to first end 12. Protector 24A is a sleeve that encircles second end 14 and essentially parallel sides 19A, but not the entire first end 12 of shaped body 10A. Ribs 32 may be provided to guide the applicator tip as it moves within a handle, not shown, and to prevent the applicator tip from leaving the handle.

Figure 8 shows the parts of figure 7 assembled.

A preferred embodiment of the polish-applying end of the shaped body 10B is shown in figures 9 and 11. Here first end 12A has two concave surfaces 18 shaped to approximately fit the surface of the nail, and a convex edge 20 extending from one essentially parallel side 19 to the other, which is not shown. Convex edge 20 conforms approximately to the shape of the cuticle. Figure 10 shows the shaped body of figures 9 and 11 fitted with protector 24C, which is very similar to the protector of figure 2.

Figure 12 shows the applicator tip of figure 2 attached to handle 34, which also serves as a reservoir for nail polish. The applicator tip comprising parts 10 and 24, is movably positioned at opening 38 in handle 34 for movement between a position at least partially within the polish reservoir for loading the tip with polish and a position at least partially outside of the reservoir for applying polish with the tip. The manner in which the tip is movably attached is known in the art and forms no part of the invention. For example, a spring could run from back end 36 to the tip to push the tip to the outer applying position as shown. The protector could have projections (not shown) to prevent its being pushed completely out of opening 38. To load the tip with polish, the user would simply push end 12 against a firm surface, causing the tip to be at least partially immersed in the polish reservoir. The user would press the pen against the firm surface for sufficient time to allow polish to saturate the fiber of the shaped body. When the tip is removed from the hard surface, it would exit opening 38 for a length sufficient to apply polish to the nails 22, as shown in figure 13. The protector, a key part of this invention, prevents the fiber of the shaped body from splaying or otherwise deforming when the tip is pressed against the firm surface or when polish is applied.

Of course other embodiments of the nail pen of this invention are possible. Any of the applicator tips of figures 1 to 11 may be used. The tip could be movably attached to the opening by the device disclosed in European Patent Publication 0 209 846, published 28 January 1987. Another apparatus for retracting and extending the tip could be that commonly used in retractable ball point pens.

Claims

1. An applicator tip for applying nail polish comprising:

(a) an elongated fibrous mass forming a shaped body having a first end for applying nail polish, a second end for insertion into a nail polish reservoir, and two essentially parallel sides extending from said first end to said second end; and

(b) a relatively rigid protector disposed along said essentially parallel sides and said second end to prevent said shaped body from permanently deforming or splaying.

2. The applicator tip of claim 1 wherein said protector is plastic.

3. The applicator tip of claim 1 or claim 2 wherein said first end is tapered, has two concave surfaces and terminates with a convex shape extending from one essentially parallel side to the other essentially parallel side such that, upon ap-

plication of polish, either concave surface conforms approximately to the shape of the surface of the nail and the convex shape conforms approximately to the shape of the cuticle.

4. The applicator tip of any one of claims 1 to 3 wherein said protector is shaped like a flat-bottomed U having arms fitting on the essentially parallel sides of the shaped body and a bottom fitting on the second end of said shaped body. 5

5. The applicator tip of any one of claims 1 to 3 wherein the protector has a hollow circular member adapted to fit said second end of said shaped body and two arms extending from said circular member along the essentially parallel sides of the shaped body. 10 15

6. The applicator tip of any one of claims 1 to 3 wherein the protector has a ring to surround the second end of said shaped body and arms extending from the ring along the essentially parallel sides of the shaped body. 20

7. The applicator tip of any one of claims 1 to 3 wherein the protector is a sleeve that encircles the second end of the shaped body and most of the shaped body, including the essentially parallel sides, but not the entire first end of the shaped body. 25

8. A pen-like device for containing and applying nail polish comprising:

(a) the applicator tip of any one of claims 1 to 7; and 30

(b) a handle having a reservoir for the nail polish, said reservoir having an opening wherein said applicator tip is movably positioned for movement between a position at least partially within said reservoir for loading said tip with polish and a position at least partially outside of said reservoir for applying polish with said tip. 35 40

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FIG. 1

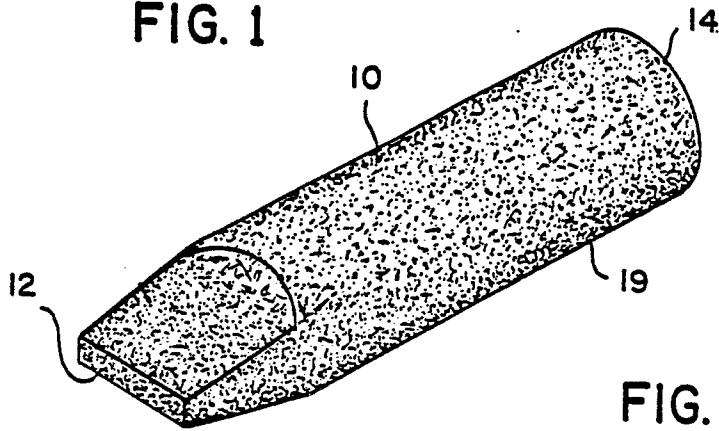


FIG. 2

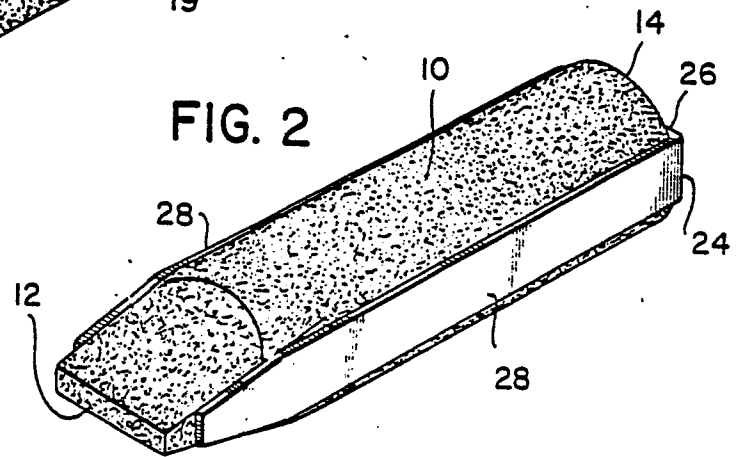


FIG. 3

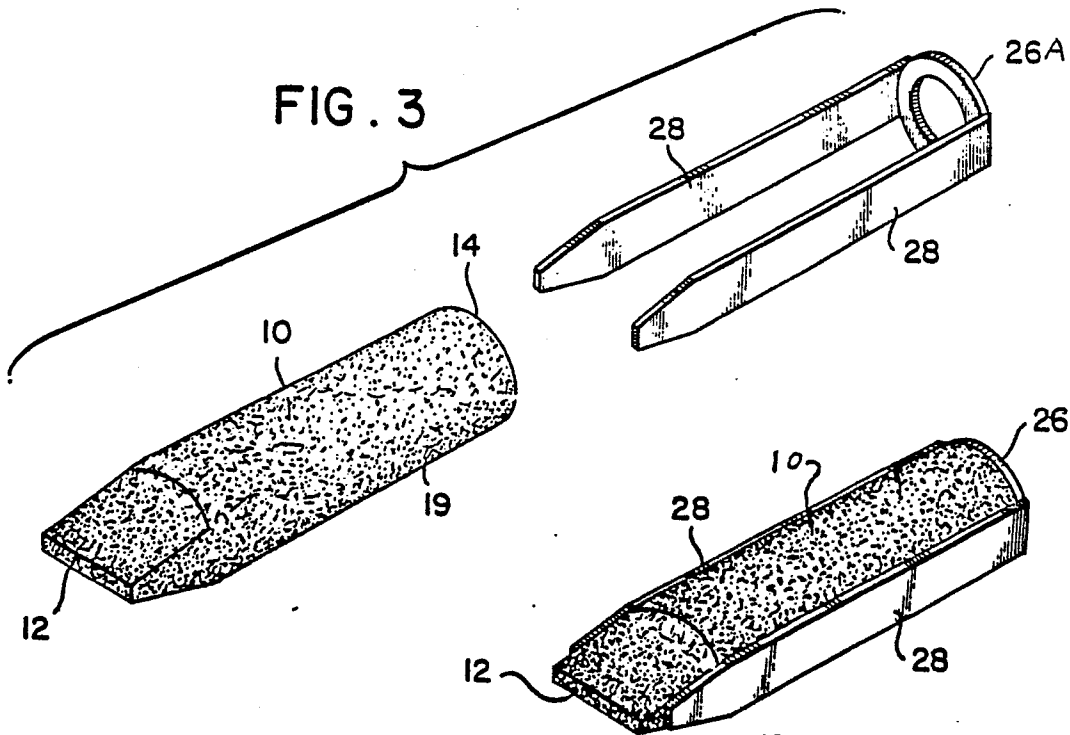


FIG 4

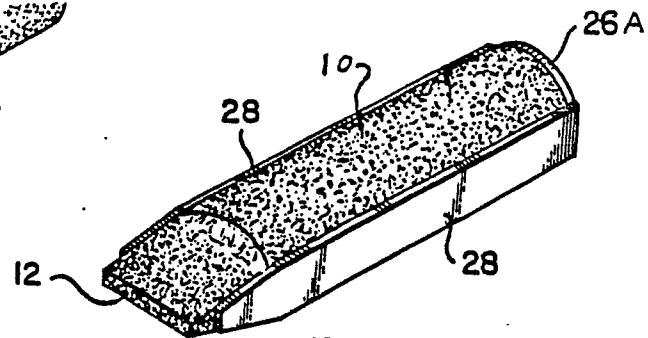


FIG. 5

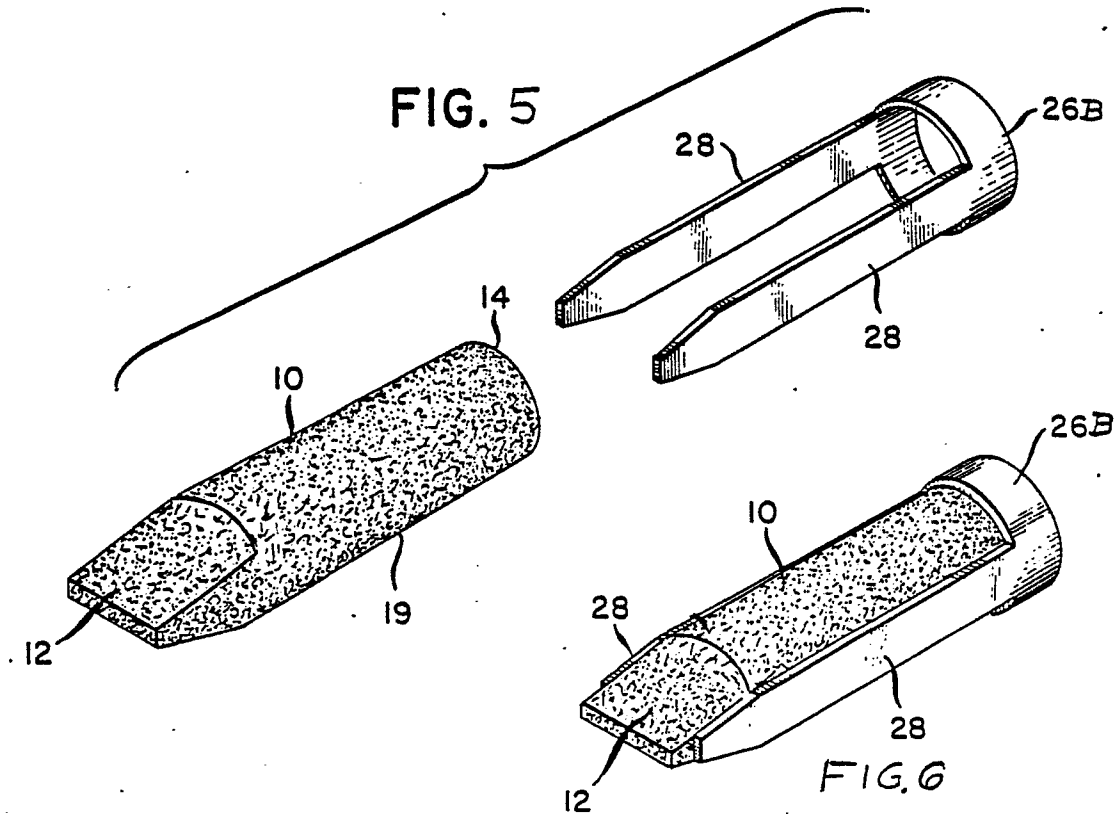


FIG. 7

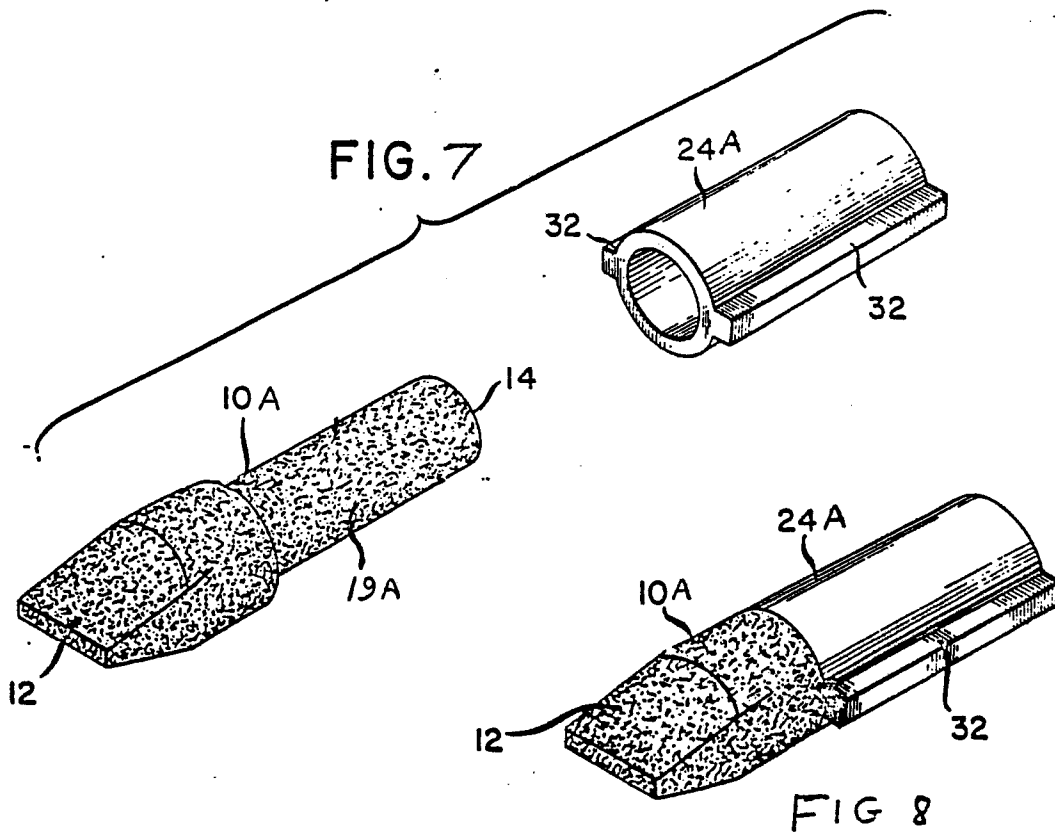


FIG. 9

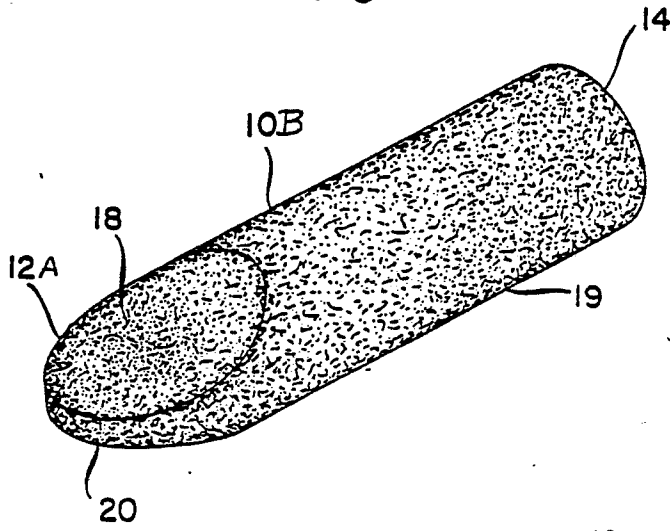


FIG. 10

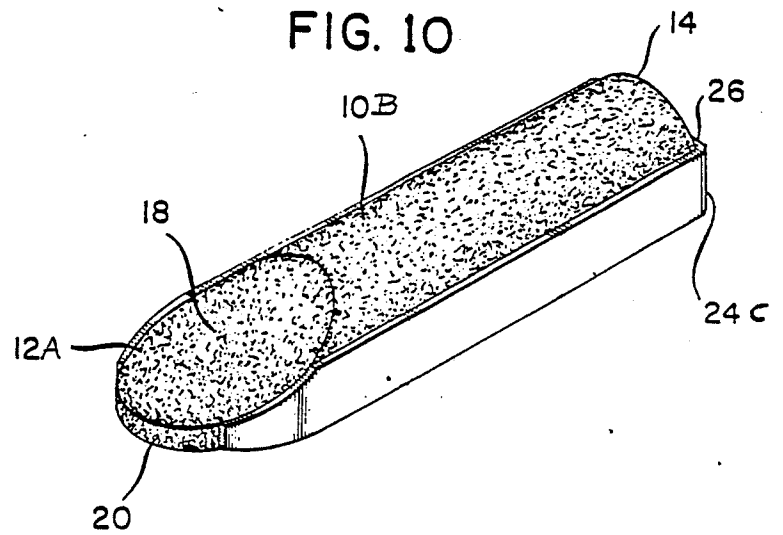


FIG. 11

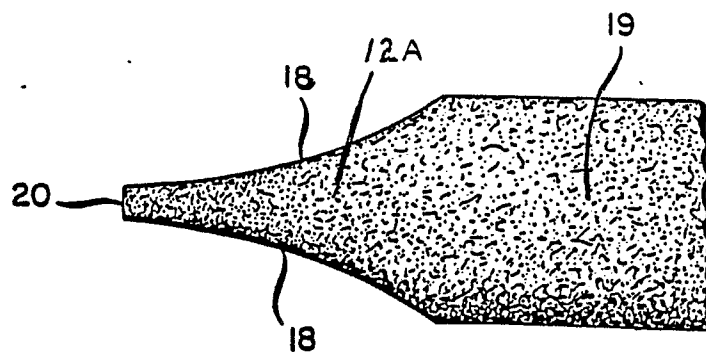


FIG. 13

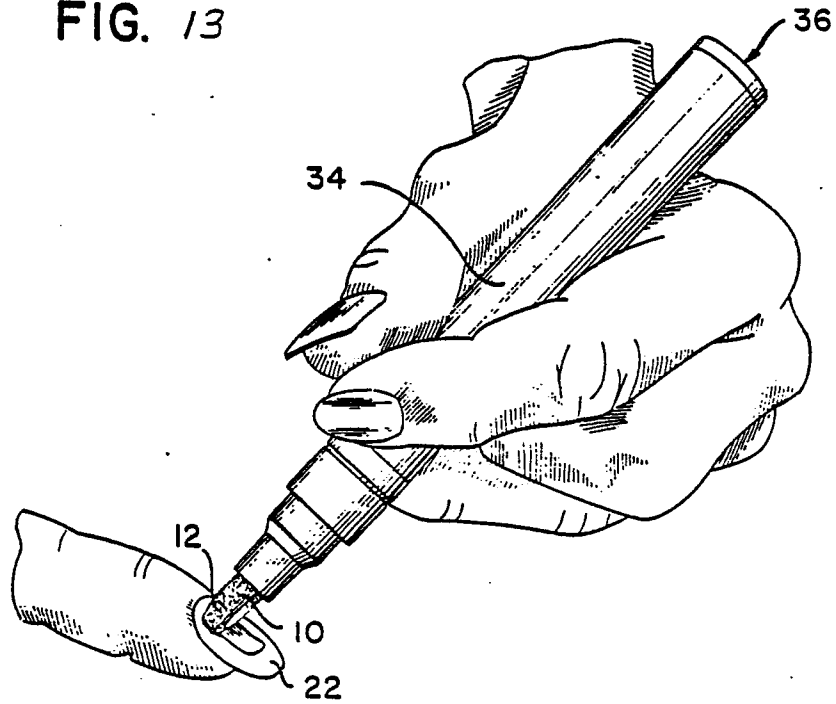


FIG. 12

