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FR-A- 968 604	US-A- 1 055 028
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Description

Background of Invention

This invention relates to an applicator for moldable soft materials as for example, soft cosmetics, crayons, marking pens, eye liners, lip liners and the like. In particular it relates to an applicator which can be used with such soft materials so as to provide a fine point when necessary in a safe manner.

Prior Art

The prior art is exemplified by United States and French patents noted below. None of these prior art patents permit the user to form a fresh fine point on a soft, moldable material in a simple, rapid manner.

U.S. 527,803, McCollum, is described as a self-sharpening pencil utilizing the conventional graphite "lead". Sharp knife edges on fingers are used to form the sharpened point.

U.S. 1,055,028, Flynn and Payne describes a paste cup for delivery of paste to the edges of a cigar wrapper in the manufacture of a cigar. The delivery is done by a plunger and orifice.

U.S. 1,270,914, Zimdars, describes a mechanical pencil with a clutch and spring. Fingers 7 are provided to guard against lead slippage from the clutch.

U.S. 1,861,466, Bafetti, is a crayon holder which is sharpened by a conical shaped thimble sharpening tool F which is snapped on when needed. The tool has a cutting or shaving plate f1 which make thin shavings.

U.S. 2,209,849, Seguin describes a lipstick holder where the rotatable plunger has an extension 18 sticking directly into the lipstick 2. Thus when the threaded end of the plunger is turned it pushes the lipstick into the conical interior surface 14 of the cap 15. It appears that the cap is locked into the body 5 by a slotted pin 16 engaging a slot 17.

U.S. 2,559,889, Matthews, describes a lipstick holder utilizing a screw which has prongs 27 embedded into the lipstick.

U.S. 2,606,527, Filak, describes an eyebrow pencil which is self-sharpening. Three or four wires are embedded in the forward portion of the sleeve which act as sharpeners.

U.S. 2,665,696, Weis, is a combination lipstick applicator and sharpener. A separate combined cap and sharpener 60 is described. The interior of the cap has ridges 64 converging towards the closed end of the cap and having an angular conformity to the taper of the lipstick 10. The ridges are stated as being "preferably sharp at their

edges as shown in 68 in Fig. 8. However, they can be made rounded or blunt to place the taper into a point and may also be curved to conform to a rounded point." Sharpening is accomplished by pushing the lipstick against the end of the cap and rotating which causes the ridges to act on the lipstick material.

U.S. 2,979,029, Melnikoff, describes an eyebrow pencil and sharpener which refers to prior patent 2,565,715 and utilizes a sharpener 27 having two plates 28 wherein the cap 30 does not contribute to the point.

U.S. 3,077,183, Spatz, relates to the sharpening of relatively soft material such as eyebrow pencils. The patent states that in the sharpening of prior art pencils there is a tendency to clog. Springs are provided to bring the point of the marking pencil into operative engagement with a pointer 28. Pointer 28 appears to comprise a truncated hollow cone 110 having a slot 112, one edge 114 of the slot being defined by the surfaces 115 of a wedge 116. Edge 114 is a cutter edge. The rotation of the cap causes the pointer to rotate under the action of the spring. The cutter bites into the crayon to cut a chip.

U.S. 3,209,730, Aston, describes a mechanical pencil where a crayon 25 is pushed by a screw 16 into sharpener plates 48. Here again the cap plays no part in the formation of the new point on the crayon.

U.S. 3,232,276, Kupersmith and Zeigler describes an eyebrow pencil and sharpener which is typical of the prior art. It has a barrel 10 which houses a feed screw 27. At the end of the feed screw 27 is a crayon supporting thimble 31 which has a socket 32 in which an eyebrow pencil crayon 34 is mounted. What the device accomplishes is that it pushes the crayon into a metal sharpener 39. Although the device has a cap 38, the cap does not participate in the formation of the sharpened end of the crayon.

French Patent 733,800, appears to have material protruding through the end of the cap.

French Patent 919,892, pushes the crayon 1 through the open end of a cap. The pencil case is designated as 9, the threads as 11. Although it is not specifically stated it appears that rotation of the cap causes the crayon to project through the end of the cap and be cut by number 12.

Objects of Invention

One object of this invention is to provide an applicator which can be used with moldable soft materials so as to provide a fine point in a simple, rapid manner.

Other objects and advantages of this invention will be apparent from the description and claims

which follow, taken together with the appended drawings.

Summary of Invention

This invention comprises broadly the combination of a body having a chamber with an open front end, and a hollow tip forming cap having an interior conical surface and releasably secured to the body. A charge of moldable soft material such as cosmetic eye liner is inserted into the body and forced into the conical surface by a piston or rod until a conical tip is formed. The cap is then released from the body exposing a fine point of soft material supported by the body and available for use. The interior conical surface and the interior surface of the chamber are sufficiently smooth and non-sticking so that the charge of moldable soft material is freely slidable within said chamber and readily releasable from such conical surface.

The charge of soft material can be incorporated either directly or as a pre-formed shaped material or housed in a cartridge open at both ends. The forcing means can be, but is not limited to, a piston upon which direct pressure is applied or a threaded member movable by rotation and which in turn acts on the charge of soft material.

BE-A-489,472 discloses a lipstick applicator with a removable protector cap over an opening, at the top of the applicator, through which lipstick may be pushed by a piston means. In use, the cap is removed and coupled at the bottom of the applicator with the piston means. The cap is then rotated to drive the piston means and push lipstick through the opening at the top of the applicator.

FR-A-968,604 and US-A-2 209 849 disclose an applicator for moldable soft material which permits the formation and exposure of a fresh point, comprising: a body having a chamber containing a charge of moldable soft material said body including a front end having an opening communicating with said chamber; a cap which is detachably securable to said front end of said body and which has an interior conical surface which forms a recess therein; and manually actuable pushing means movable within said chamber of said body and in contact with the rear of said charge of soft material for forcing said charge of soft material through said opening in said front end of said body and into said recess of said cap when said cap is secured to said body, the interior surface of said body and said cap each being sufficiently smooth and non-sticking so that said charge of soft material is freely slidable within said chamber of said body and readily releasable from said interior surface of said cap. The present invention provides an applicator being characterized by the body having a frusto-conical surface extending about the open-

ing in the front end, and the interior conical surface of the cap including a portion which is registrable in tight fitting relationship with the frusto-conical surface of the body when the cap is secured to the front end of said body, whereby actuation of the pushing means pushes the charge of soft material into the conical recess to form a fresh point on the end of the charge of soft material and detaching of the cap exposes the fresh point.

In some instances, where a very soft material is used an additional or outer protector member is provided which has an interior surface registrable with the exterior surface of the tip forming cap. With medium soft and less creamy materials the outer protector member would not be needed if the interior surface of the tip forming cap is sufficiently smooth and non-sticking as is the case with "Teflon".

When used with the outer protector member the tip forming cap has slits which form fingers. Upon release of the outer protector member the tip forming cap is preferably drawn backward to release it from the material and body and then slid forward and removed resulting in the formation of a conical tip of the soft material.

In another variation the tip forming cap has an exterior transverse, circular ridge which registers with the slightly wider interior, transverse circular groove in the outer protector member. When this variation is used the tip forming cap is permanently housed in the outer protector member so that release of the outer protector member pulls the tip forming cap with it, opens and closes the fingers and leaves the desired conical tip.

The interior surfaces of the tip-forming cap and the chamber are sufficiently smooth and non-sticking to permit the charge to be easily slidable and readily releasable. If the tip-forming cap is made of a resilient plastic with a smooth surface, such as nylon and more particularly "Teflon", removal of the protector member permits the fingers to open without sliding back, so that the user may remove the tip forming cap by simply sliding forward which both frees it from the body as well as the material if quick release attachment is used.

The piston means preferably comprises a threadable cover and rod. When the cover is screwed onto the end of the body it exerts pressure on the soft material so as to pack it tightly. The protector member is preferably interiorly threaded so as to be firmly attached to the body during the formation of the conical tip of material. As the material point wears out, reconnection of the tip-forming cap and protector member permits the piston to again form a fresh point.

Where the outer protector member is not used, the tip forming cap has a continuous exterior surface and no slits. After sufficient pressure has been

exerted by the piston to fill the hollow space in the tip forming cap, the cap is slid forward and removed, resulting in the formation of a conical tip of the soft material.

By means of this invention, it is possible to make rapid fresh fine points on soft cosmetics such as eye liner and lip liner and on soft marking devices such as crayons and marking pens. This production of a fine point permits a safer application than has been possible with previously described devices.

Brief Description of Drawings

Fig. 1 is a side view of the assembled device made in accordance with one embodiment of this invention.

Fig. 2 is a cross-section along line 2-2 of Fig. 1.

Fig. 3 is a cross-section along line 3-3 of Fig. 1.

Fig. 4 is a partial end view of the device where the outer protector member has been removed and the tip forming cap slid back partially to release the fine tip of the material.

Fig. 5 is an exploded view of the front portion of the device in disassembled fashion.

Fig. 6 is a view of the rear portion of the device in disassembled fashion.

Fig. 7 is a side view of the assembled device where no outer protector member is used.

Fig. 8 is a cross-section along line 7-7 of Fig. 7.

Fig. 9 is a perspective view of the tip forming cap used without the protector member.

Fig. 10 is an exploded view of another embodiment of this invention wherein the tip-forming cap has slits but normally is housed and slidable within the protector member.

Specific Examples of Invention

Referring now to Figs 1-6 in the drawings, the assembled device 10 illustrates an embodiment of this invention which is particularly useful for very soft materials. It comprises the body 11, the tip forming cap 19, the outer threadable protector member 20 and the threadable piston holder 22. The piston holder 22 has internal threading 13a which registers with the external threading 13 on body 11 and permits the piston 21 to be inserted and moved forwardly within the chamber of hollow body 11 so as to force material 18 through the opening 17a in the frusto-conical front end 17 of the body 11.

Prior to forcing the material out, tip forming cap 19 with slits 19a forming fingers 19b is slid tightly over the frusto-conical front end 17 and then the outer threadable protector member 20 which has

interior threading 20a is threaded on to the speed thread 14. Tip forming cap 19 has interior threading 16b and a snap notch 16a cooperable with threading 15a and recess 16 in the body 11. When the applicator is to be first used, tip forming cap 19 is threaded onto frusto-conical front end 17 of the body 11 and the outer threadable protector member 20 is threaded onto the speed thread 14 on the body 11. Then soft material 18 is added to the chamber of body 11. After this has been done the piston holder 22 is threaded onto the back thread 13 so that rotation of 22 causes the piston 21 to push the material forward until it is tightly packed. The outer protector member 20 is taken off completely and the tip forming cap 19 with its fingers 19b formed by slits 19a is pushed backward so that the conical tip of the material 18 protrudes as shown in Fig. 4. Then the tip forming cap 19 is moved forward and slid off completely leaving the conical tip of material 18 exposed.

Referring now to the embodiment illustrated in Figs. 7, 8 and 9, the tip forming cap 119, which has a continuous outer surface and a conical inner surface, is threaded onto the frusto-conical front end 17 of the body 11 but no outer protector member is used. As in the other embodiment, the soft material 18 is added to the chamber of body 11 and the piston holder 22 threaded onto the back thread 13 so that rotation of piston holder 22 causes the piston 21 to push the material forward into tip forming cap 119 until it is tightly packed. Then the tip forming cap 119 is unthreaded from front end 17 and moved forward and off, leaving the conical tip of material 18 exposed for use.

Referring now to the embodiment illustrated in Fig. 10, the tip-forming cap 219 has slits 219a forming fingers 219b. On its outer surface is a narrow shoulder or circumferential ridge 219c. The outer protector member 220 has a circumferential groove 220c on its interior surface. Groove 220c and ridge 219c are registrable with one another, but the groove 220c is wider than the ridge 219c so that when the cap 219 is positioned within the protector member 220 it can slide slightly when the protector member 220 is removed, causing the fingers 219b to open and release the material. Once the cap 219 is assembled within the protector member 220, it is normally not removable and is removed when the protector member 220 is removed, so that the user has less pieces to handle. The outer protector member 220 and tip forming cap 219 have similar interior threading and notches as the previous embodiment illustrated in Figs 1-6 and attach and detach from the body in a similar manner.

Claims

1. An applicator for moldable soft material (18) which permits the formation and exposure of a fresh point, comprising: a body (11) having a chamber containing a charge of moldable soft material (18), said body (11) including a front end (17) having an opening (17a) communicating with said chamber; a cap (19,119,219) which is detachably securable to said front end (17) of said body (11) and which has an interior conical surface which forms a recess therein; and manually actuatable pushing means (21, 22) movable within said chamber of said body (11) and in contact with the rear of said charge of soft material (18) for forcing said charge of soft material (18) through said opening (17a) in said front end (17) of said body (11) and into said recess of said cap (19,119,219) when said cap is secured to said body (11), the interior surface of said body (11) and said cap (19,119,219) each being sufficiently smooth and non-sticking so that said charge of soft material (18) is freely slidable within said chamber of said body (11) and readily releasable from said interior surface of said cap (19,119,219), said applicator being characterized by said body (11) having a frusto-conical surface extending about said opening (17a) in said front end (17), and said interior conical surface of said cap (19, 119, 219) including a portion which is registrable in tight fitting relationship with said frusto-conical surface of said body (11) when said cap (19,119,219) is secured to said front end (17) of said body (11), whereby actuation of said pushing means (21,22) pushes said charge of soft material (18) into said conical recess to form a fresh point on the end of said charge of soft material (18) and detaching of said cap (19,119,219) exposes said fresh point.
2. An applicator in accordance with claim 1, wherein said cap (19,119,219) is adapted to be detachably secured to said front end (17) of said body (11) by means of cooperable threading (15a,16b) provided on said body (11) and on said cap (19,119,219).
3. An applicator in accordance with claim 1, wherein said pushing means comprises a piston (21) movably mounted within said chamber of said body (11) and a piston holder (22) connected to said piston (21) and threadably mounted on said body (11), whereby rotation of said piston holder (22) causes said piston (21) to move forward within said chamber of said body (11).
4. An applicator in accordance with Claim 1 wherein the cap (19,219) has slits (19a,219a) forming fingers (19b,219b) at its front end and is detachably connected to said body (11), and wherein an outer protector member (20,220) is provided which has an interior surface registrable with the exterior surface of the cap (19,219) and is detachably connected to said body (11).
5. An applicator in accordance with Claim 4 wherein the interior surface of said outer protector member (220) and the exterior surface of said cap (219) have cooperable means (219c,220c) for normally holding said cap (219) within said outer protector member (220) but permitting said cap (219) to slide slightly within said outer protector member (220) thus allowing the fingers (219b) to open when the protector member (220) is removed from said body (11).
6. An applicator made in accordance with Claim 5 wherein said cooperable means comprises a transverse ridge (219c) on the exterior surface of said cap (219) and a slightly wider transverse groove (220c) on the interior surface of said outer protector member (220).

Patentansprüche

1. Anbringvorrichtung für formbares, weiches Material (18), welche die Bildung und Freilegung einer frischen Spitze ermöglicht, enthaltend: einen Grundkörper (11) mit einer Kammer, welche eine Füllung aus dem formbaren, weichen Material (18) enthält, wobei der Grundkörper (11) ein Vorderende (17) mit einer Öffnung (17a) aufweist, die mit der Kammer in Verbindung steht; eine Kappe (19,119,219), welche abnehmbar am Vorderende (17) des Grundkörpers (11) befestigbar ist und eine innere Kegelfläche aufweist, die darin eine Vertiefung bildet; und eine manuell betätigbare Ausdrückeinrichtung (21,22), die innerhalb der Kammer des Grundkörpers (11) und in Berührung mit der Rückseite der Füllung des weichen Materials (18) bewegbar ist, um diese Füllung des weichen Materials (18) durch die Öffnung (17a) am Vorderende (17) des Grundkörpers (11) und in die Vertiefung der Kappe (19,119,219) zu drücken, wenn die Kappe (19,119,219) an dem Grundkörper (11) befestigt ist, wobei die Innenflächen des Grundkörpers (11) und der Kappe (19,119,219) beide ausreichend glatt und nicht-klebend sind, so daß die Füllung des weichen Materials (18) innerhalb der Kammer des Grundkörpers (11) frei gleiten kann und leicht von der Innenfläche

der Kappe (19,119,219) lösbar ist, und wobei die Anbringvorrichtung dadurch gekennzeichnet ist, daß der Grundkörper (11) eine kegeltstumpfförmige Oberfläche aufweist, die sich rund um die Öffnung (17a) am Vorderende (17) erstreckt, und die innere Kegelfläche der Kappe (19,119,219) einen Bereich aufweist, der dicht anliegend mit der kegeltstumpfförmigen Oberfläche des Grundkörpers (17) in Übereinstimmung bringbar ist, wenn die Kappe (19,119,219) am Vorderende (17) des Grundkörpers (11) befestigt wird, wodurch eine Betätigung der Ausdrückeinrichtung (21,22) die Füllung aus weichem Material (18) in die kegelförmige Vertiefung drückt, um am Ende dieser Füllung aus weichem Material (18) eine frische Spitze zu bilden, und wodurch das Entfernen der Kappe (19,119,219) die frische Spitze freilegt.

2. Anbringvorrichtung nach Anspruch 1, bei der die Kappe (19,119,219) dazu geeignet ist, mittels zusammenwirkender, am Grundkörper (11) und an der Kappe (19,119,219) angebrachter Gewinde (15a, 16b) abnehmbar am Vorderende (17) des Grundkörpers (11) befestigt zu werden.

3. Anbringvorrichtung nach Anspruch 1, bei der die Ausdrückeinrichtung einen beweglich in der Kammer des Grundkörpers (11) gelagerten Kolben (21) und einen mit dem Kolben (21) verbundenen sowie schraubbar am Grundkörper (11) montierten Kolbenhalter (22) aufweist, wodurch eine Drehung des Kolbenhalters (22) den Kolben (21) zu einer Vorwärtsbewegung in der Kammer des Grundkörpers (11) veranlaßt.

4. Anbringvorrichtung nach Anspruch 1, bei der die Kappe (19,219) an ihrem Vorderende Finger (19b,219b) bildende Schlitze (19a,219a) aufweist und abnehmbar am Grundkörper (11) befestigt ist, und bei der ein äußeres Schutzteil (20,220) vorgesehen ist, das eine mit der Außenfläche der Kappe (19,219) in Übereinstimmung bringbare Innenfläche aufweist und abnehmbar am Grundkörper (11) befestigt ist.

5. Anbringvorrichtung nach Anspruch 4, bei der die Innenfläche des äußeren Schutzteils (220) und die Außenfläche der Kappe (219) zusammenwirkende Einrichtungen (219c,220c) aufweisen, die die Kappe (219) normalerweise im äußeren Schutzteil (220) halten, aber der Kappe (219) erlauben, innerhalb des äußeren Schutzteils (220) geringfügig zu gleiten, um dadurch den Fingern (219b) zu ermöglichen, sich zu öffnen, wenn das Schutzteil (220) vom

Grundkörper (11) abgenommen wird.

6. Anbringvorrichtung nach Anspruch 5, bei der die zusammenwirkenden Einrichtungen eine Querrippe (219c) auf der Außenfläche der Kappe (219) und eine geringfügig breitere Querrille (220c) in der Innenfläche des äußeren Schutzteils (220) aufweisen.

Revendications

1. Applicateur pour une matière molle moulable (18) qui permet la formation et l'exposition d'un nouveau point, comprenant : un corps (11) ayant une chambre contenant une charge d'une matière molle moulable (18), ledit corps (11) comprenant une extrémité avant (17) ayant une ouverture (17a) communicant avec ladite chambre, un bouchon (19, 119, 219) qui peut être fixé de façon détachable à ladite extrémité avant (17) dudit corps (11) et qui a une surface conique intérieure qui forme une gorge à l'intérieur ; et un dispositif de poussée actionnable manuellement (21, 22) mobile dans ladite chambre dudit corps (11) et en contact avec l'arrière de ladite charge de matière molle (18) pour pousser ladite charge de matière molle (18) via ladite ouverture (17a) dans ladite extrémité avant (17) dudit corps (11) et dans ladite gorge dudit bouchon (19, 119, 219) lorsque ledit bouchon est fixé sur ledit corps (11), la surface intérieure dudit corps (11) et ledit bouchon (19, 119, 219) étant chacun suffisamment lisse et non collant de sorte que ladite charge de matière molle (18) peut librement coulisser dans ladite chambre dudit corps (11) et facilement libérable de ladite surface intérieure dudit bouchon (19, 119, 219), ledit applicateur étant caractérisé par ledit corps (11) ayant une surface tronconique s'étendant autour de ladite ouverture (17a) dans ladite extrémité avant (17), et ladite surface conique intérieure dudit bouchon (19, 119, 219) comprenant une partie qui peut coïncider dans une relation d'ajustage serré avec ladite surface tronconique dudit corps (11) lorsque ledit bouchon (19, 119, 219) est fixé à ladite extrémité avant (17) dudit corps (11), une manoeuvre dudit dispositif de poussée (21, 22) pousse ainsi ladite charge de matière molle (18) dans ladite gorge conique pour former un nouveau point à l'extrémité de ladite charge de matière molle (18) et un détachement dudit bouchon (19, 119, 219) expose ledit nouveau point.

2. Applicateur selon la revendication 1, dans lequel ledit bouchon (19, 119, 219) est adapté pour être fixé de façon détachable à ladite

extrémité avant (17) dudit corps (11) au moyen d'un filetage qui peut coopérer (15a, 16b), fourni sur ledit corps (11) et sur ledit bouchon (19, 119, 219).

3. Applicateur selon la revendication 1, dans lequel ledit dispositif de poussée comprend un piston (21) mobile monté dans ladite chambre dudit corps (11) et un porte-piston (22) relié audit piston (21) et monté par filetage sur ledit corps (11), une rotation dudit porte-piston (22) provoque ainsi le déplacement dudit piston (21) vers l'avant dans ladite chambre dudit corps (11).

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4. Applicateur selon la revendication 1, dans lequel le bouchon (19, 219) a des fentes (19a, 219a) formant des doigts (19b, 219b) à son extrémité avant et est reliée de façon détachable audit corps (11), et dans lequel un élément protecteur externe (20, 220) est placé qui a une surface intérieure qui peut coïncider avec la surface extérieure du bouchon (19, 219) et est relié de façon détachable audit corps (11).

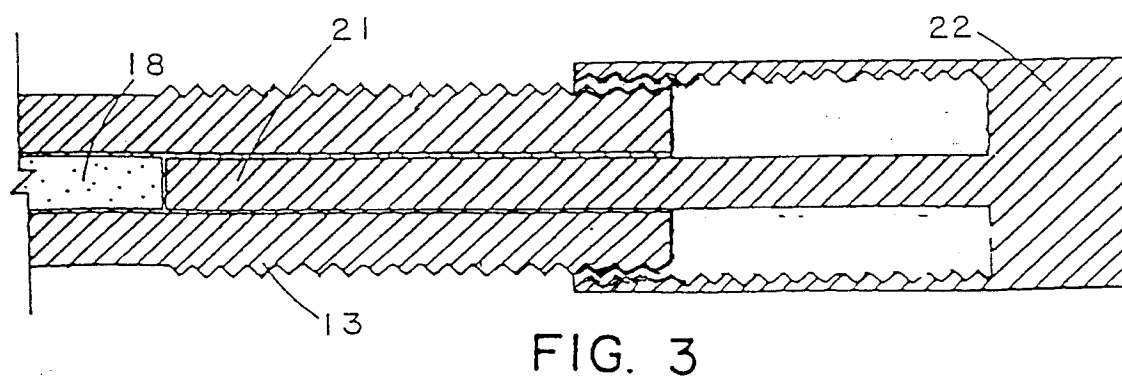
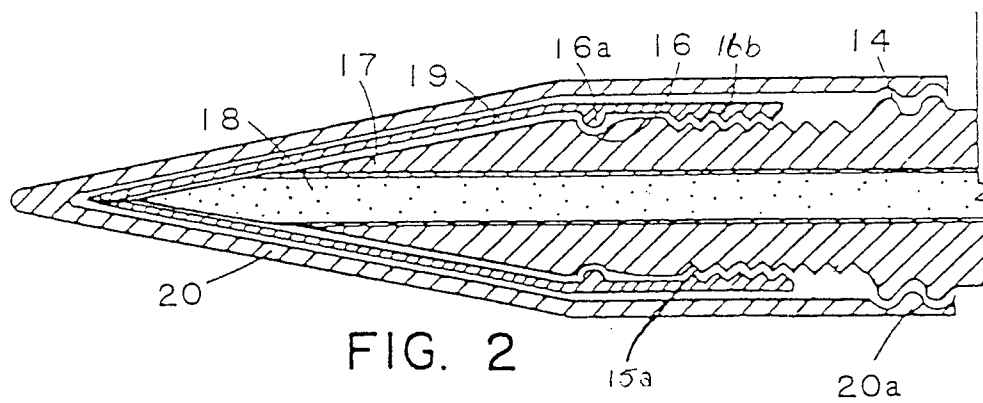
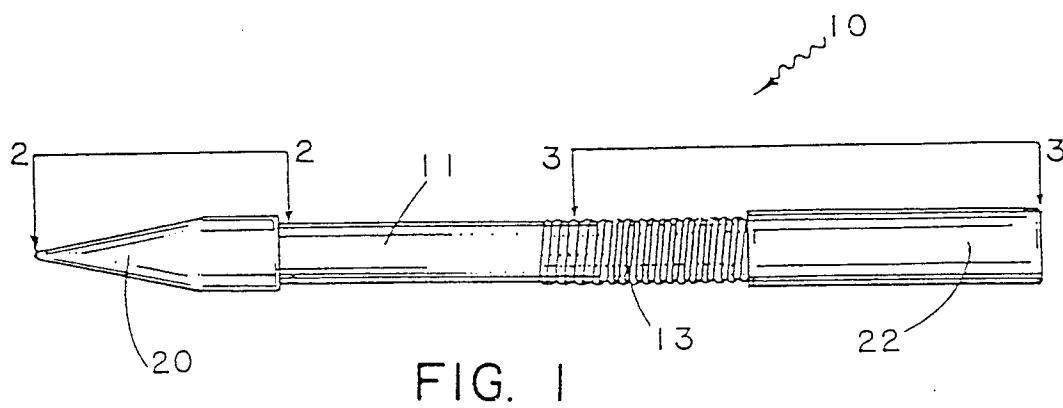
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5. Applicateur selon la revendication 4 dans lequel la surface intérieure dudit élément protecteur externe (220) et la surface externe dudit bouchon (219) ont un dispositif qui peut coopérer (219c, 220c) pour maintenir normalement ledit bouchon (219) dans ledit élément protecteur externe (220) mais permettant audit bouchon (219) de coulisser légèrement dans ledit élément protecteur externe (220) permettant ainsi aux doigts (219b) de s'ouvrir lorsque l'élément protecteur (220) est enlevé dudit corps (11).

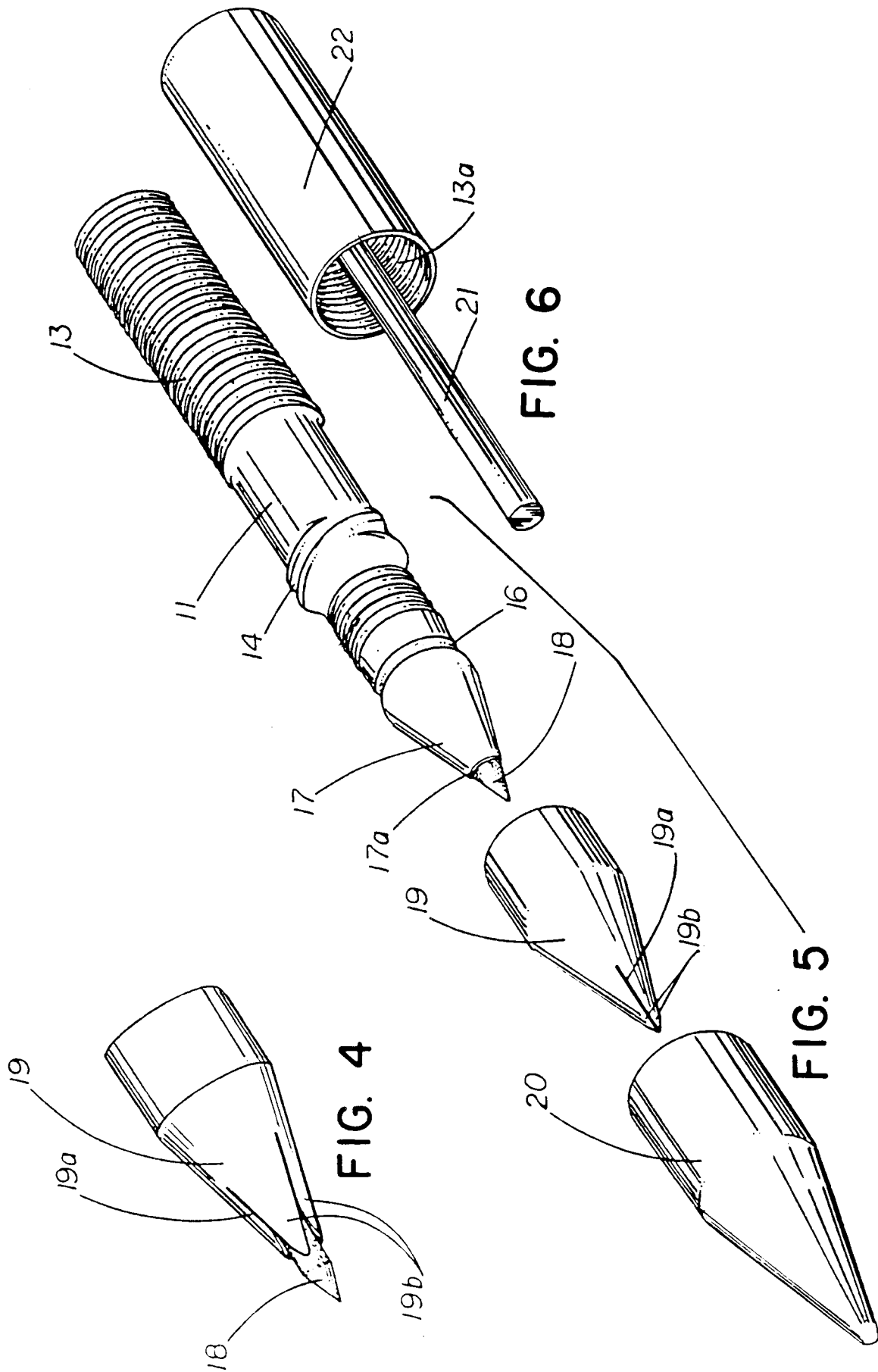
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6. Applicateur selon la revendication 5 dans lequel ledit dispositif qui peut coopérer comprend une arête transversale (219c) sur la surface externe dudit bouchon (219) et une gorge transversale légèrement plus large (220c) sur la surface intérieure dudit élément protecteur externe (220).

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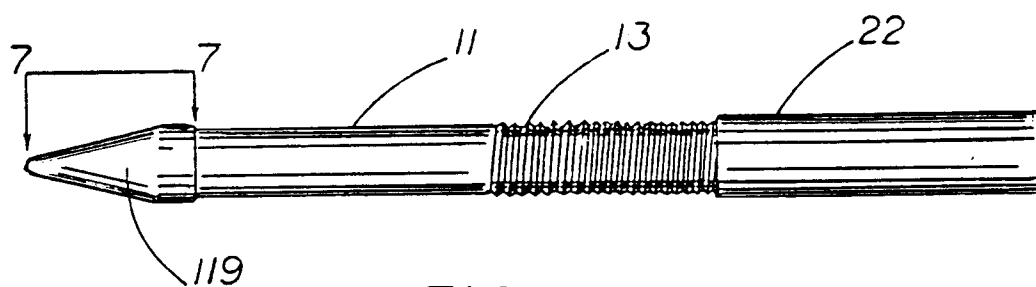


FIG. 7

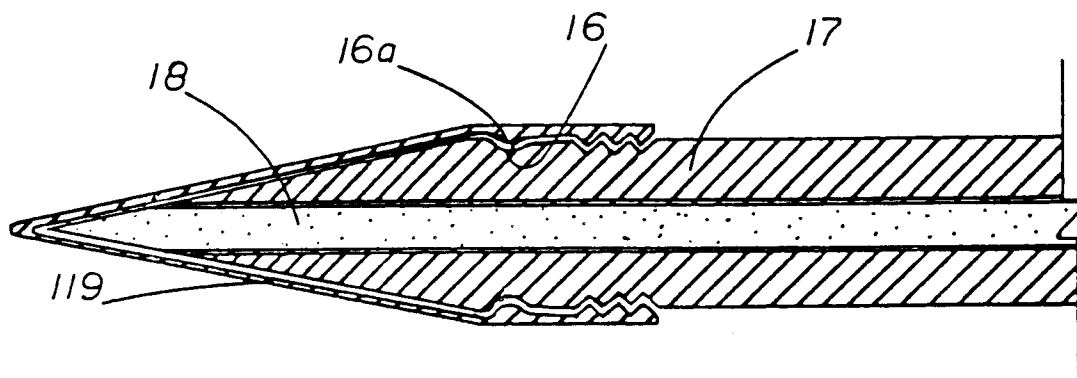


FIG. 8

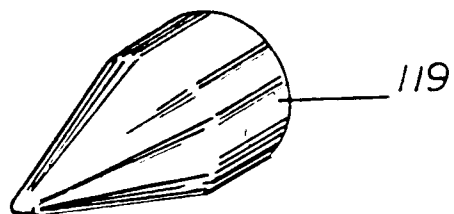


FIG. 9

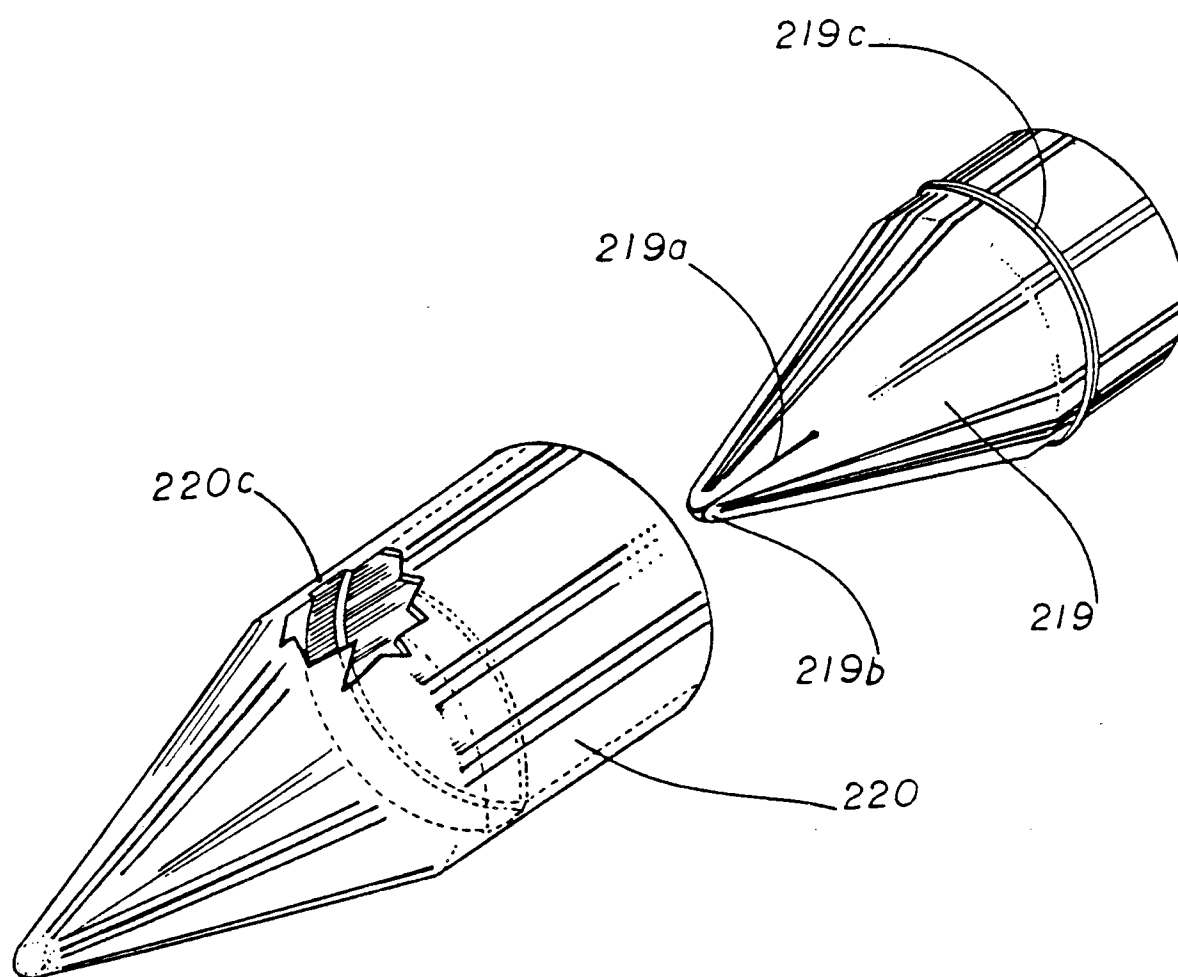


FIG. 10