



Europäisches Patentamt  
European Patent Office  
Office européen des brevets



(11) **EP 1 498 360 A2**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:  
**19.01.2005 Bulletin 2005/03**

(51) Int Cl.7: **B65D 59/04**

(21) Application number: **04012794.6**

(22) Date of filing: **28.05.2004**

(84) Designated Contracting States:  
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR  
HU IE IT LI LU MC NL PL PT RO SE SI SK TR**  
Designated Extension States:  
**AL HR LT LV MK**

(71) Applicant: **Tsaur, Garry**  
**Rowland Heights, CA 91748 (US)**

(72) Inventor: **Tsaur, Garry**  
**Rowland Heights, CA 91748 (US)**

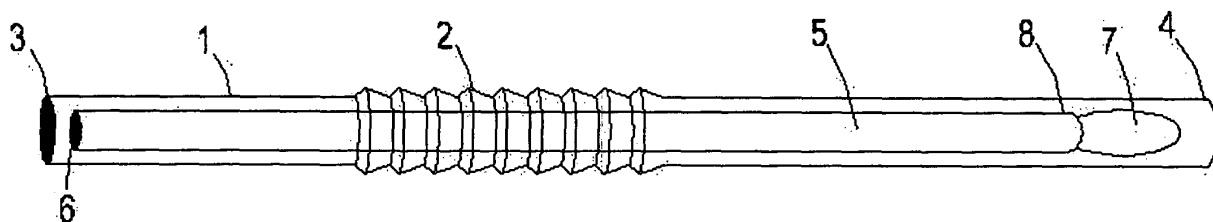
(30) Priority: **17.07.2003 US 621878**

(74) Representative: **Viering, Jentschura & Partner**  
**Steinsdorfstrasse 6**  
**80538 München (DE)**

(54) **Retractable packaging**

(57) An elongated retractable packaging that can be compressed and elongated axially and encloses an elongated member is disclosed. The retractable packaging comprises of an elongated hollow tube housing (1) with a flexible bellow section (2) between the two ends of the elongated hollow tube housing (1). Both ends of the elongated hollow tube housing (1) may be sealed with an opening means such as a weakened section in the form of a score line provided near one sealed

end or one end of the elongated hollow tube housing may be sealed and the other end may be opened. The elongated hollow tube housing (1) encloses an elongated member (5). The elongated member (5) may have an applicator (7) at one (8) of its ends. When the elongated hollow tube housing (1) is retracted, the applicator (7) at the end (8) of the elongated member (5) is exposed for application. After application, the elongated hollow tube housing (1) may be stretched back to its original length to enclose the applicator end.



*FIG. 1*

EP 1 498 360 A2

## Description

### BACKGROUND-FIELD OF INVENTION

[0001] The present invention relates generally to an elongated packaging that is retractable. More specifically the present invention is an elongated packaging that can be axially compressed and elongated and encloses an elongated member.

### BACKGROUND-DESCRIPTION OF RELATED ART

[0002] Packaging comes in a variety of shapes and sizes. Most packagings are in the form of a square or rectangular box. Some packagings for elongated members are in the form of a fixed hollow tube. The tube is generally a hollow cylinder with a circular or polygonal cross-section. Most of these packaging for elongated members are for large elongated members. Efficient and cost effective packagings for small individual elongated members are virtually non-existent.

[0003] Individual packaging for small elongated members such as swab applicators, crayons, and chinks are virtually non-existent. Also, packagings for small samples of lipsticks, eye shadows, and eye liners are non-existent. Generally, multiple small elongated members such as swab applicators, crayons, and chinks are packaged in a small box and are not separately packaged individually. Individual packaging of the small elongated members is either not cost effective or the packaging will be difficult to open and use.

### SUMMARY OF THE INVENTION

[0004] The present invention is an elongated retractable packaging that can be compressed and elongated axially and encloses an elongated member. The retractable packaging comprises of an elongated hollow tube housing with a flexible bellow section between the two ends of the elongated hollow tube housing. Both ends of the elongated hollow tube housing may be sealed with an opening means such as a weakened section in the form of a score line provided near one sealed end or one end of the elongated hollow tube housing may be sealed and the other end may be opened. The elongated hollow tube housing encloses an elongated member. The elongated member may have an applicator at one of its ends. When the elongated hollow tube housing is retracted, the applicator at the end of the elongated member is exposed for application. After application, the elongated hollow tube housing may be stretched back to its original length to enclose the applicator end.

### BRIEF DESCRIPTION OF THE DRAWINGS

[0005]

Figure 1 shows the preferred embodiment of the re-

tractable packaging before the retractable packaging is retracted.

Figure 2 shows the preferred embodiment of the retractable packaging after the retractable packaging is retracted.

Figure 3 shows another embodiment of the retractable packaging.

Figure 4 shows another embodiment of the retractable packaging.

Figure 5 shows another embodiment of the retractable packaging.

Figure 6 shows the embodiment of the retractable packaging shown in figure 4 after the retractable packaging is retracted.

Figure 7 shows another embodiment of the retractable packaging.

Figure 8 shows another embodiment of the retractable packaging.

Figure 9 shows another embodiment of the retractable packaging.

Figure 10 shows another embodiment of the retractable packaging.

Figure 11 shows another embodiment of the retractable packaging.

### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0006] Figure 1 shows the preferred embodiment of the present invention. In the preferred embodiment, the retractable packaging comprises of an elongated hollow tube housing 1 with a flexible bellow section 2 between the two ends 3, 4 of the elongated hollow tube housing 1. One end 3 of the elongated hollow tube housing 1 is sealed. The elongated hollow tube housing 1 encloses an elongated member 5. One end 6 of the elongated member 5 may be affixed to the sealed end 3 of the elongated hollow tube housing 1. The elongated member 5 may have an applicator 7 at one of its ends 8. The elongated member 5 may be a crayon, a chalk, a lipstick, an eyeliner, or a swab applicator. As shown in figure 2, when the elongated hollow tube housing 1 is retracted, by compressing the flexible bellow section 2 axially, the applicator 7 at the end 8 of the elongated member 5 is exposed for application. The elongated member 5 will provide structural support when the flexible bellow section 2 is being compressed to ensure smooth linear axial compression. After application, the elongated hollow tube housing 1 may be stretched back to its original length to enclose the applicator end 8.

[0007] Figure 3 shows another embodiment of the retractable packaging. This embodiment of the retractable packaging comprises a first elongated hollow tube housing 9 with two ends 10, 11 wherein one end 10 has a smaller diameter than the remainder of the first elongated hollow tube housing 9. A second elongated hollow tube housing 12 with two ends 13, 14 wherein one end 13 has a larger diameter than the remainder of the sec-

ond elongated hollow tube housing **12** and larger than the diameter of the end **10** of the first elongated hollow tube housing **9** with the smaller diameter. The second elongated hollow tube housing **12** is slidably engaged to the first elongated hollow tube housing **9** on a common axis. An elongated member **15** is affixed to the end **11** of the first elongated hollow tube housing **9** with the larger diameter and disposed within the elongated hollow tube housings **9, 12** wherein the first and second elongated hollow tube housings **9, 12** enclose the elongated member **15**. One end **151** of the elongated member **15** may have a larger diameter section where it affixes to the end **11** of the first elongated hollow tube housing **9** with the approximate dimension of the inside of the first elongated hollow tube housing **9**. The other end of the elongated member **15** may have a swab applicator **152** mounted thereon, and the swab applicator **152** may be a crayon, a chalk, a lipstick, an eyeliner, or a swab applicator.

**[0008]** Figure 4 shows another embodiment of the retractable packaging. This embodiment of the retractable packaging comprises an elongated hollow tube housing **90** and an elongated member **91**. The elongated hollow tube housing **90** having two ends **901, 902**, which are both opened, wherein one end **902** has a smaller diameter than that of the remainder of the elongated hollow tube housing **90**. One end of the elongated member **91** may have a swab applicator **911** mounted thereon, wherein the swab applicator **911** can be a crayon, a chalk, a lipstick, an eyeliner, or a swab applicator. And, the other end **912** of the elongated member **91** has a larger diameter than that of the remainder of the elongated member **91** and than the end **902** of the elongated hollow tube housing **90**. The elongated member **91** is slidably engaged to the elongated hollow tube housing **90** so that the elongated hollow tube housing **90** encloses the swab applicator **911**, and when the elongated member **91** is retracted into the end **902** of the elongated hollow tube housing **90**, the swab applicator **911** can be exposed out of the end **901** of the elongated hollow tube housing **90**.

**[0009]** Figure 5 shows another embodiment of the retractable packaging. This embodiment of the retractable packaging comprises a first elongated hollow tube housing **9** with two ends **10, 11** wherein one end **10** has a smaller diameter than the remainder of the first elongated hollow tube housing **9**. A second elongated hollow tube housing **12** with two ends **13, 14** wherein one end **13** has a larger diameter than the remainder of the second elongated hollow tube housing **12** and larger than the diameter of the end **10** of the first elongated hollow tube housing **9** with the smaller diameter. The second elongated hollow tube housing **12** is slidably engaged to the first elongated hollow tube housing **9** on a common axis. An elongated member **15** is affixed to the end **11** of the first elongated hollow tube housing **9** with the larger diameter and disposed within the elongated hollow tube housings **9, 12** wherein the first and second

elongated hollow tube housings **9, 12** enclose the elongated member **15**. The elongated member **15** may have a larger diameter section where it affixes to the end **11** of the first elongated hollow tube housing **9** with the approximate dimension of the inside of the first elongated hollow tube housing **9**. The elongated member **15** may be a crayon, a chalk, a lipstick, an eyeliner, or a swab applicator.

**[0010]** As shown in figure 6, when the second elongated hollow tube housing **12** is retracted into the first elongated hollow tube housing **9**, one end **16** of the elongated member **15** is exposed for application. After application, the second elongated hollow tube housing **12** may be moved back to its original position to enclose the applicator end **16**.

**[0011]** Figure 7 shows another embodiment of the retractable packaging. In this embodiment, the retractable packaging comprises of an elongated hollow tube housing **17** with a flexible bellow section **18** between the two ends of the elongated hollow tube housing **17**. Both ends of the elongated hollow tube housing **17** are sealed with an opening means **19** provided near one end of the elongated hollow tube housing **17**. The opening means **19** may be a weakened section such as a score line or may be a thin rupturable membrane sealing the sealed end. The elongated hollow tube housing **17** encloses an elongated member **20**. One end **21** of the elongated member **20** may be affixed to the sealed end of the elongated hollow tube housing **17** opposite the end with the opening means **19**. The end **23** of the elongated member **20** near the opening means **19** has a diameter approximately that of the inside diameter of the elongated hollow tube housing **17**. A substance **22** such as a liquid, a cream, or a powder is disposed between the end **23** of the elongated member **20** and the sealed end near the opening means **19**. When the elongated hollow tube housing **17** is retracted, by compressing the flexible bellow section **18** axially, the elongated member **20** will exert a force on the substance **22** which is transmitted to the opening means **19** to force the opening means **19** to open the sealed end of the elongated hollow tube housing **17** and also force the substance **22** out of the elongated hollow tube housing **17** to be applied as desired. The elongated member **20** will provide structural support when the flexible bellow section **18** is being compressed to ensure smooth linear axial compression. After application, the elongated hollow tube housing **17** may be stretched back to its original length to enclose the elongated member **20** for disposal.

**[0012]** Figure 8 shows another embodiment of the retractable packaging. In this embodiment, the retractable packaging comprises of an elongated hollow tube housing **17** with a flexible bellow section **18** between the two ends of the elongated hollow tube housing **17**. Both ends of the elongated hollow tube housing **17** are sealed with an opening means **19** provided near one end of the elongated hollow tube housing **17**. The opening means **19** may be a weakened section such as a score line or

may be a thin rupturable membrane sealing the sealed end. The elongated hollow tube housing 17 encloses an elongated member 24. One end of the elongated member 24 may be affixed to the sealed end of the elongated hollow tube housing 17 opposite the end with the opening means 19. A solid substance 25 such as a vitamin pill or other medications in the form of a pill is disposed between the end 26 of the elongated member 24 and the sealed end near the opening means 19. When the elongated hollow tube housing 17 is retracted, by compressing the flexible bellow section 18 axially, the elongated member 24 will exert a force on the solid substance 25 which is transmitted directly to the opening means 19 to force the opening means 19 to open the sealed end of the elongated hollow tube housing 17 and also force the solid substance 25 out of the elongated hollow tube housing 17. The elongated member 24 will provide structural support when the flexible bellow section 18 is being compressed to ensure smooth linear axial compression. After use, the elongated hollow tube housing 17 may be stretched back to its original length to enclose the elongated member 24 for disposal.

[0013] Figure 9 shows another embodiment of the retractable packaging. In this embodiment, the retractable packaging comprises of an elongated hollow tube housing 17 with a flexible bellow section 18 between the two ends of the elongated hollow tube housing 17. Both ends of the elongated hollow tube housing 17 are sealed with an opening means 19 provided near one end of the elongated hollow tube housing 17. The opening means 19 may be a weakened section such as a score line or may be a thin rupturable membrane sealing the sealed end. The elongated hollow tube housing 17 encloses a swab applicator 27. One end of the swab applicator 27 may be affixed to the sealed end of the elongated hollow tube housing 17 opposite the end with the opening means 19. The end of the swab applicator 27 near the opening means 19 has a swab such as a cotton swab or foam swab. A substance 28 such as a cream or a powder is disposed between the end of the swab applicator 27 and the sealed end near the opening means 19. When the elongated hollow tube housing 17 is retracted, by compressing the flexible bellow section 18 axially, the swab applicator 27 will exert a force on the substance 28 which is transmitted to the opening means 19 to force the opening means 19 to open the sealed end of the elongated hollow tube housing 17 and also force the substance 28 out of the elongated hollow tube housing 17 along with the exposed swab applicator 27 to be applied as desired. The swab applicator 27 will provide structural support when the flexible bellow section 18 is being compressed to ensure smooth linear axial compression. After application, the elongated hollow tube housing 17 may be stretched back to its original length to enclose the swab applicator 27 for disposal.

[0014] Figure 10 shows another embodiment of the retractable packaging. In this embodiment, the retractable packaging comprises of an elongated hollow tube

housing 17 with a flexible bellow section 18 between the two ends of the elongated hollow tube housing 17. Both ends of the elongated hollow tube housing 17 are sealed with an opening means 19 provided near one end of the elongated hollow tube housing 17. The opening means 19 may be a weakened section such as a score line or may be a thin rupturable membrane sealing the sealed end. A swab 29 such as a cotton swab or a foam swab encloses the end of the elongated hollow tube housing 17 with the opening means 19 and the opening that will be generated by the opening means 19. The elongated hollow tube housing 17 encloses an elongated member 20. One end 21 of the elongated member 20 may be affixed to the sealed end of the elongated hollow tube housing 17 opposite the end with the opening means 19. The end 23 of the elongated member 20 near the opening means 19 has a diameter approximately that of the inside diameter of the elongated hollow tube housing 17. A substance 22 such as a liquid, a cream, or a powder is disposed between the end 23 of the elongated member 20 and the sealed end of the elongated hollow tube housing 17 near the opening means 19. When the elongated hollow tube housing 17 is retracted, by compressing the flexible bellow section 18 axially, the elongated member 20 will exert a force on the substance 22 which is transmitted to the opening means 19 to force the opening means 19 to open the sealed end of the elongated hollow tube housing 17 and also force the substance 22 out of the elongated hollow tube housing 17 into the swab 29 covering the opening means 19 for application. The elongated member 20 will provide structural support when the flexible bellow section 18 is being compressed to ensure smooth linear axial compression.

[0015] Figure 11 shows another embodiment of the retractable packaging. In this embodiment, the retractable packaging comprises of an elongated hollow tube housing 30 with a flexible bellow section 31 between the two ends of the elongated hollow tube housing 30. One end of the elongated hollow tube housing 30 is sealed and the other end of the elongated hollow tube housing 30 is open. A swab 32 such as a cotton swab or a foam swab encloses the open end of the elongated hollow tube housing 30. The elongated hollow tube housing 30 encloses an elongated member 33. One end of the elongated member 33 may be affixed to the sealed end of the elongated hollow tube housing 30. The end of the elongated member 33 near the open end has a diameter approximately that of the inside diameter of the elongated hollow tube housing 30. A first substance 34 such as a liquid or a cream is disposed between the end of the elongated member 33 and the open end. Another viscous substance 35 such as silicone is disposed between the first substance 34 and the open end to act as a stopper plug to seal the first substance 34 and to retain the first substance 34 within the elongated hollow tube housing 30. When the elongated hollow tube housing 30 is retracted, by compressing the flexible bellow sec-

tion **31** axially, the elongated member **33** will exert a force on the first substance **34** which is transmitted to the viscous substance **35** to force the first substance **34** through the viscous substance **35** and out of the elongated hollow tube housing **30** into the swab **32** covering the open end for application. The elongated member **33** will provide structural support when the flexible bellow section **31** is being compressed to ensure smooth linear axial compression.

**[0016]** Although the description above contains many specificities, these should not be construed as limiting the scope of the invention but as merely providing illustrations of some of the presently preferred embodiments of this invention. Thus the scope of the invention should be determined by the appended claims and their legal equivalents, rather than by the examples given.

## Claims

### 1. A retractable packaging comprising:

an elongated hollow tube housing 1 with a flexible bellow section 2 that can be compressed and elongated axially between the two ends of the elongated hollow tube housing; and  
an elongated member 5 disposed within said elongated hollow tube housing 1;

wherein said elongated hollow tube housing 1 encloses the elongated member 5 and when the elongated hollow tube housing 1 is retracted by compressing the flexible bellow section 2, one end of the elongated member 5 is exposed.

2. A retractable packaging as in claim 1, wherein said elongated hollow tube housing 1 has a sealed end 3 and an open end 4 and wherein one end 6 of said elongated member 5 is affixed to the sealed end 3 of the elongated hollow tube housing 1.

3. A retractable packaging as in claim 1, wherein said elongated member 5 has an applicator 7 at one end 8.

4. A retractable packaging as in claim 2, wherein said elongated member 5 has an applicator 7 at its free end.

5. A retractable packaging as in claim 1, wherein said elongated hollow tube housing 17 has a first sealed end and a second sealed end wherein a first end of said elongated member 20 is affixed to said first sealed end and a second end of said elongated member 20 has a diameter approximately that of the inside diameter of the elongated hollow tube housing 17 and an opening means 19 is provided near said second sealed end with a substance 22

disposed between said second sealed end and the second end of said elongated member 20.

6. A retractable packaging as in claim 1, wherein said elongated hollow tube housing 17 has a first sealed end and a second sealed end wherein a first end of said elongated member 24 is affixed to said first sealed end and an opening means 19 is provided near said second sealed end with a substance 25 disposed between said second sealed end and a second end of said elongated member 24.

7. A retractable packaging as in claim 1, wherein said elongated hollow tube housing 17 has a first sealed end and a second sealed end wherein a first end of said elongated member is affixed to said first sealed end and a swab 27 is affixed to a second end of said elongated member and an opening means 19 is provided near said second sealed end with a substance 28 disposed between said second sealed end and the second end of said elongated member with the swab.

8. A retractable packaging as in claim 1, wherein said elongated hollow tube housing 17 has a first sealed end and a second sealed end wherein a first end 21 of said elongated member 20 is affixed to said first sealed end and a second end 23 of said elongated member 20 has a diameter approximately that of the inside diameter of the elongated hollow tube housing 17 and an opening means 19 is provided near said second sealed end with a substance 22 disposed between said second sealed end and the second end of said elongated member 20.

9. A retractable packaging as in claim 1, wherein said elongated hollow tube housing 17 has a first sealed end and a second sealed end wherein a first end 21 of said elongated member 20 is affixed to said first sealed end and a second end of said elongated member 20 has a diameter approximately that of the inside diameter of the elongated hollow tube housing 17 and an opening means 19 is provided near said second sealed end with a substance 22 disposed between said second sealed end and the second end of said elongated member 20 with a swab 29 enclosing the second sealed end.

10. A retractable packaging as in claim 1, wherein said elongated hollow tube housing 30 has a first sealed end and a second open end wherein a first end of said elongated member 33 is affixed to said first sealed end and a second end of said elongated member 33 has a diameter approximately that of the inside diameter of the elongated hollow tube housing 30 with a first substance 34 disposed between said second open end and the second end of said elongated member 33 and a viscous sub-

stance 35 acting as a stopper between the first substance 34 and the second open end with a swab 32 enclosing the second open end.

**11.** A retractable packaging comprising:

a first elongated hollow tube housing 9 with two ends 10, 11 wherein one end 10 has a smaller diameter than the remainder of the first elongated hollow tube housing 9;  
a second elongated hollow tube housing 12 with two ends 13, 14 wherein one end 13 has a larger diameter than the remainder of the second elongated hollow tube housing 12 and larger than the diameter of the end 10 of the first elongated hollow tube housing 9 with the smaller diameter and wherein the second elongated hollow tube housing 12 is slidably engaged to the first elongated hollow tube housing 9; and an elongated member 15 disposed within said first and second elongated hollow tube housings 9, 12;

wherein said first and second elongated hollow tube housings 9, 12 enclose the elongated member 15 and when the second elongated hollow tube housing 12 is retracted into the first hollow tube housing 9, one end 16 of the elongated member 15 is exposed.

**12.** A retractable packaging as in claim 11, wherein the end opposite the end 11 with a smaller diameter of said first elongated hollow tube housing 9 is sealed and wherein one end 151 of said elongated member 15 is affixed to said sealed end 11 of the first elongated hollow tube housing 9.

**13.** A retractable packaging as in claim 11, wherein said elongated member 15 has an applicator 152 at one end.

**14.** A retractable packaging as in claim 12, wherein said elongated member 15 has an applicator 152 at its free end.

**15.** A retractable packaging as in claim 12, wherein the end opposite the end 14 with the larger diameter of said second elongated hollow tube housing 12 is sealed and a second end 16 of said elongated member 15 has a diameter approximately that of the inside diameter of the second elongated hollow tube housing 12 and an opening means is provided near said sealed end 14 in the second elongated hollow tube housing 12 with a substance disposed between said sealed end of the second elongated hollow tube housing 12 and the second end 16 of said elongated member 15.

**16.** A retractable packaging as in claim 12, wherein the end opposite the end 14 with the larger diameter of said second elongated hollow tube housing 12 is sealed and a swab 152 is affixed to a second end 16 of said elongated member 15 and an opening means is provided near said second sealed end 14 with a substance disposed between said second sealed end 14 and the second end 16 of said elongated member 15 with the swab 152.

**17.** A retractable packaging as in claim 12, wherein the end opposite the end 14 with the larger diameter of said second elongated hollow tube housing 12 is sealed and an opening means is provided near said sealed end 14 in the second elongated hollow tube housing 12 with a substance disposed between said sealed end 14 of the second elongated hollow tube housing 12 and the second end 16 of said elongated member 15.

**18.** A retractable packaging as in claim 11, wherein the end opposite the end 14 with the larger diameter of said second elongated hollow tube housing 12 is sealed and a second end 16 of said elongated member 15 has a diameter approximately that of the inside diameter of the second elongated hollow tube housing 12 and an opening means is provided near said sealed end 14 in the second elongated hollow tube housing 12 with a substance disposed between said sealed end 14 of the second elongated hollow tube housing 12 and the second end 16 of said elongated member 15 with a swab 152 enclosing the second sealed end 14.

**19.** A retractable packaging as in claim 11, wherein the end opposite the end 14 with the larger diameter of said second elongated hollow tube housing 12 is sealed and a second end 16 of said elongated member 15 has a diameter approximately that of the inside diameter of the second elongated hollow tube housing 12 and an opening means is provided near said sealed end 14 in the second elongated hollow tube housing 12 with a substance disposed between said sealed end 14 of the second elongated hollow tube housing 12 and the second end 16 of said elongated member 15 and a viscous substance acting as a stopper between the first substance and the second open end with a swab enclosing the second open end.

**20.** A retractable packaging comprising:

an elongated hollow tube housing 90 with two ends 901, 902 wherein one end 902 has a smaller diameter than that of the remainder of the elongated hollow tube housing 90; and an elongated member 91 wherein one end 912 of the elongated member 91 has a larger diam-

eter than that of the remainder of the elongated member 91 and wherein the elongated member 91 is slidably engaged to the elongated hollow tube housing 90 so that the elongated hollow tube housing 90 encloses one end of the elongated member 91, and when the elongated member 91 is retracted into the elongated hollow tube housing 90, one end 912 of the elongated member 91 with the larger diameter is exposed out of the elongated hollow tube housing 90.

**21.** A retractable packaging as in claim 20, wherein said elongated member has an applicator 911 at one end.

**22.** A retractable packaging as in claim 20, wherein said elongated member has an applicator 911 at one end, which is enclosed.

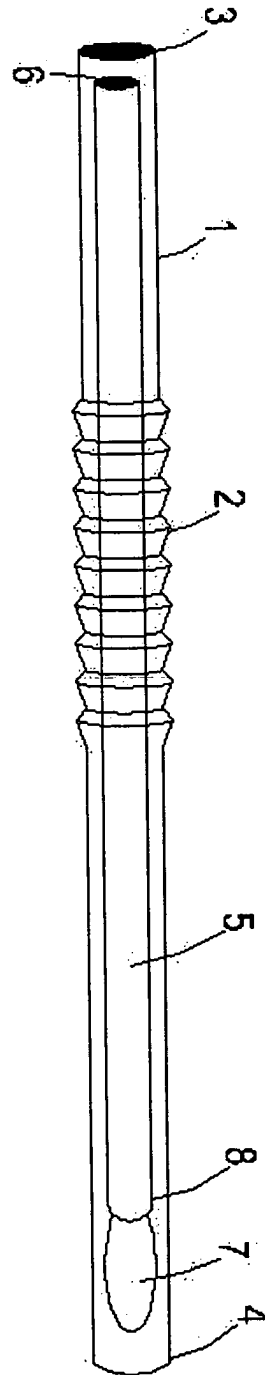


FIG. 1

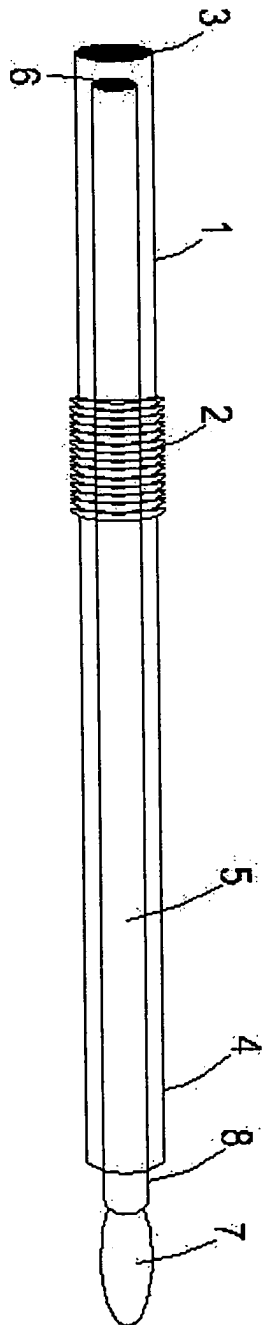


FIG. 2



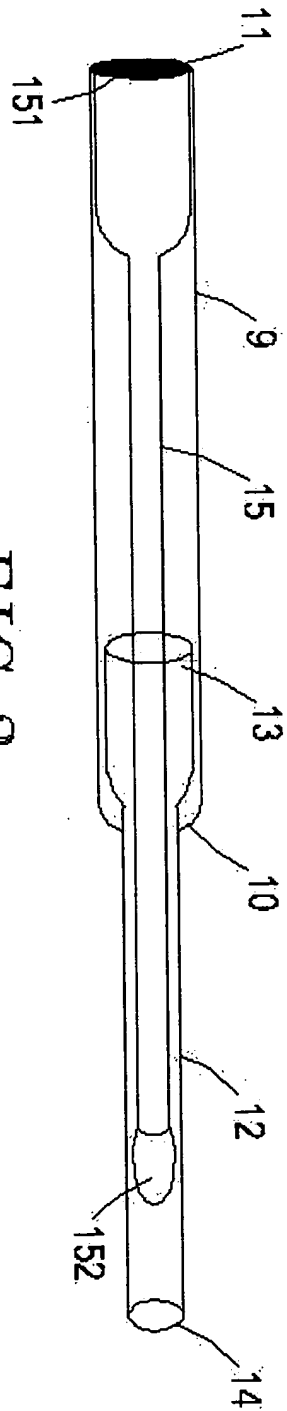


FIG. 3

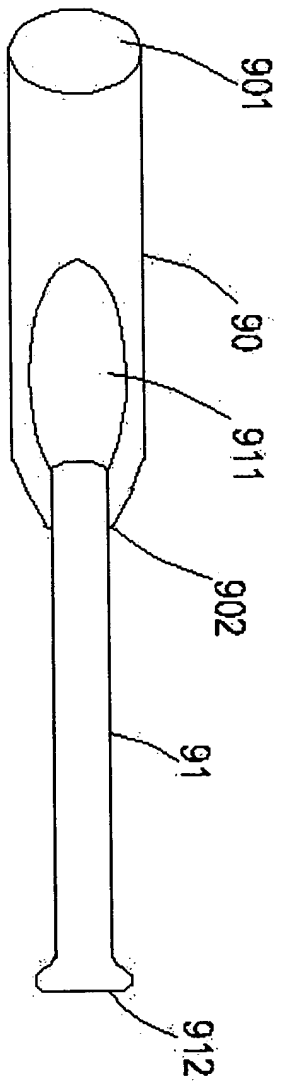


FIG. 4

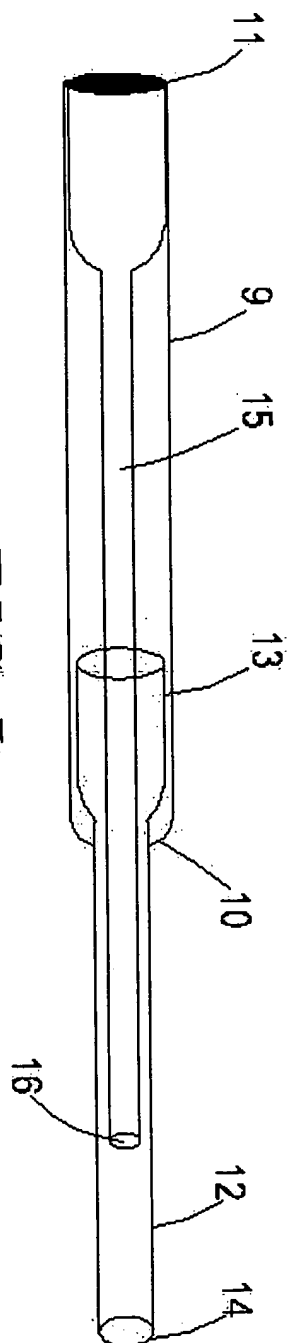


FIG. 5

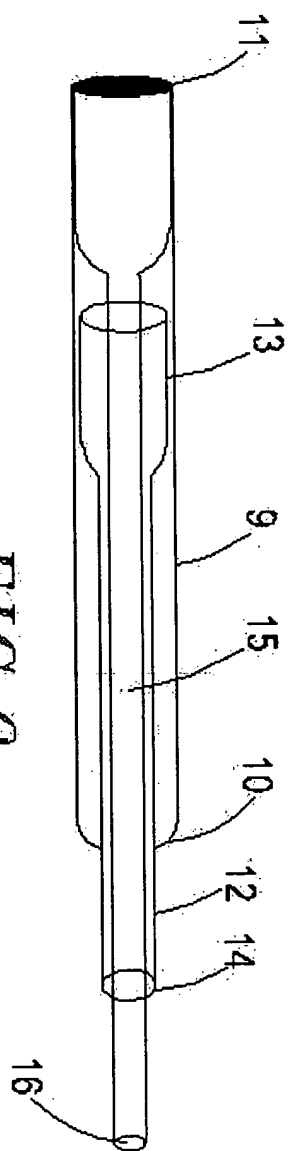


FIG. 6

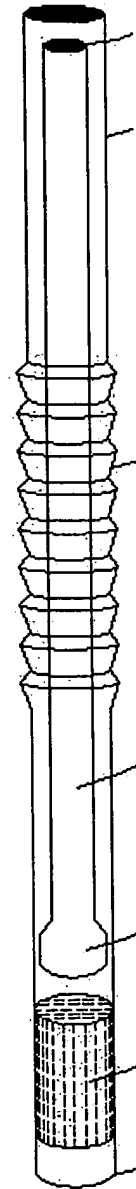


FIG. 7

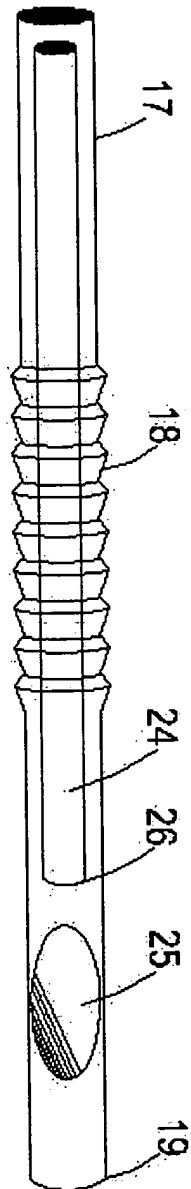


FIG. 8

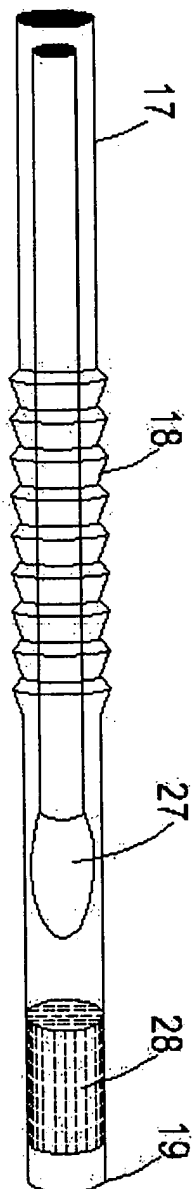


FIG. 9

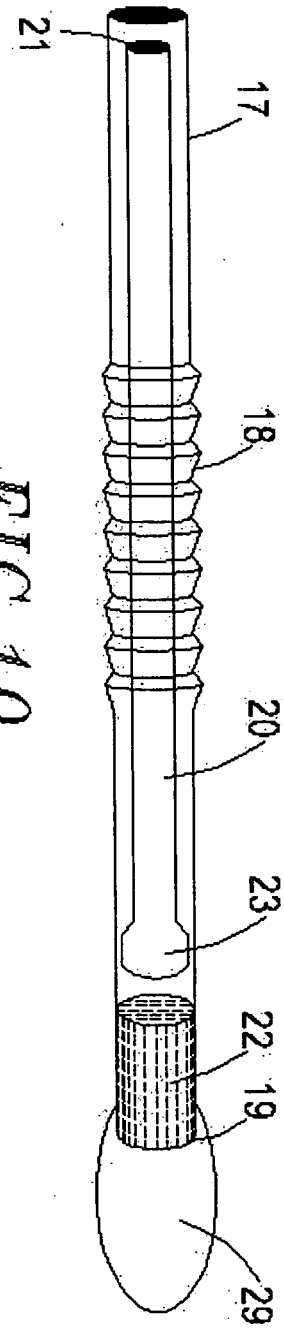


FIG. 10

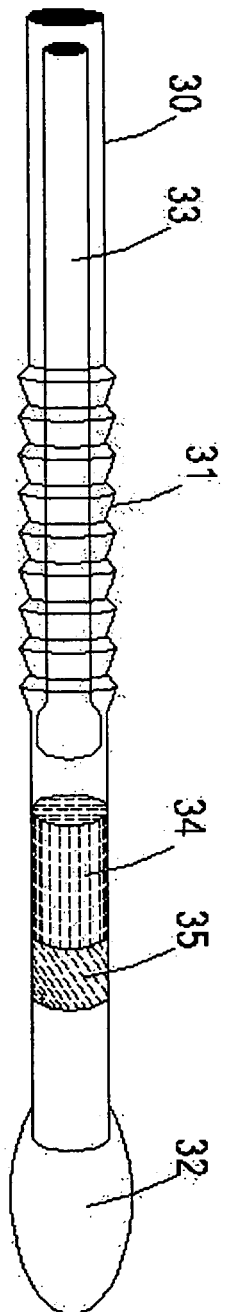


FIG. 11