

Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) **EP 0 850 784 A2**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
01.07.1998 Bulletin 1998/27

(51) Int. Cl.⁶: **B43K 29/02**, A45D 40/04,
A45D 40/20

(21) Application number: **97122463.9**

(22) Date of filing: **19.12.1997**

(84) Designated Contracting States:
**AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC
NL PT SE**
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **19.12.1996 JP 339513/96**

(71) Applicant: **Kotobuki & Co. Ltd.**
Kyoto-shi, Kyoto-hu (JP)

(72) Inventor:
Kageyama, Hidehei
c/o Kotobuki & Co. Ltd.
Kawagoe-shi Saitama-ken (JP)

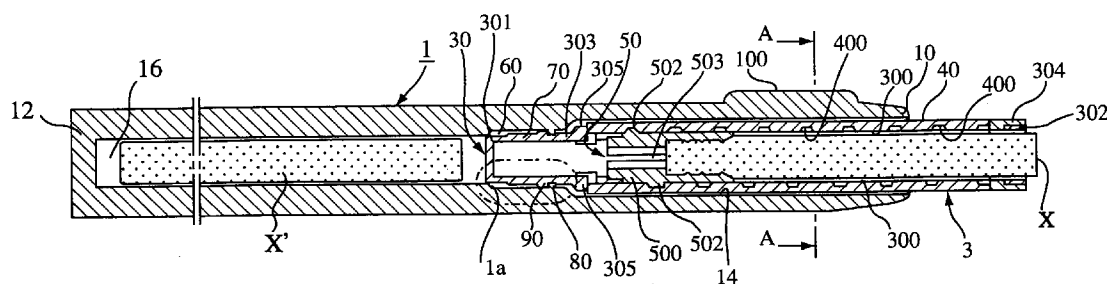
(74) Representative:
Gramm, Werner, Prof. Dipl.-Ing.
GRAMM, LINS & PARTNER
Theodor-Heuss-Strasse 1
38122 Braunschweig (DE)

(54) **Container with means for selectively extending and retracting a substantially stick-shaped object**

(57) A container comprising a container body having an opened end, a closed end, a first chamber adjacent the opened end, and a second chamber adjacent the closed end for containing at least one object therein, said first and second chambers communicating with each other, and a dispenser for selectively extending

and retracting a substantially stick-shaped object, said dispenser being removably received in the first chamber of the container body, whereby the second chamber of the container body is closed.

FIG. 1



Description

BACKGROUND OF THE INVENTION

Field of the Invention

This invention relates to a container with means for selectively extending and retracting a substantially stick-shaped object, such as a rubber eraser, lead crayon, a pastel, glue, chalk, rough or eyebrow pencil lead.

Description of the Prior Art

Hitherto, there is proposed an instrument for selectively extending and retracting a pencil lead which is disclosed in Japanese utility model provisional publication No. Sho.52-35736. This instrument includes a tubular body, and an inner tubular member having a projecting portion provided at one end thereof, the inner tubular member received in the tubular body in such a manner that the projecting portion is projected outwardly. In the instrument, when the projecting portion of the inner tubular member is turned relative to the tubular body, the pencil lead can be extended from a forward section of the tubular body.

However, this conventional instrument does not have any room for housing a spare object, e.g., a spare pencil lead therein. Therefore, it is impossible to cause any spare object to be housed in the instrument.

SUMMARY OF THE INVENTION

Accordingly, it is an object of the present invention to provide a container with a dispenser for selectively extending and retracting a substantially stick-shaped object, wherein any spare object can be housed.

It is another object of this invention to provide a container with a dispenser acting as both means to selectively extend and retract a substantially stick-shaped object and means to cover the container.

BRIEF DESCRIPTION OF THE DRAWINGS

These and other objects and many of the attendant advantages of the present invention will be readily appreciated as the same becomes better understood by reference to the following detailed description when considered in connection with the accompanying drawings, in which like reference numerals designate the same parts throughout the Figures and wherein:

Fig. 1 is a schematic longitudinal sectional view of a container with a dispenser for selectively extending and retracting a substantially stick-shaped object according to a first embodiment of the present invention;

Fig. 2 is a schematic exploded perspective view of

the dispenser;

Fig. 3 is a schematic enlarged view of a part of the container which is encircled by a chain line in Fig. 1; Fig. 4 is a schematic sectional view of a tubular body of the container, taken on a plane indicated in Fig. 1 by a line A-A; and

Fig. 5 is a schematic longitudinal sectional view of a container according to a second embodiment of the present invention,

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Now, the present invention will be discussed herein-after with reference to the accompanying drawings.

A container according to the present invention comprises an elongated tubular body having a first chamber and a second chamber; a dispenser removably received in the first chamber of the tubular body for selectively extending and retracting a substantially stick-shaped object, e.g., a stick-shaped rubber eraser, lead crayon, pastel, glue, chalk, rouge, eyebrow or the like, the dispenser having a guide sleeve for guiding the stick-shaped object; first cooperating means on the tubular body and guide sleeve of the dispenser for preventing rotational movement of the guide sleeve of the dispenser relative to the tubular body; and second cooperating means on the tubular body and dispenser for retaining the dispenser in the first chamber of the tubular body.

Referring to Figs. 1 and 2, there is illustrated a container according to a first embodiment of the present invention. A tubular body 1 of the container has an opened end 10, a closed end 12, a first chamber 14 adjacent the opened end 10 for receiving a dispenser 3, and a second chamber 16 adjacent the closed end 12 for storing at least one stick-shaped object therein. The tubular body 1 is made of synthetic resin material. In the illustrated example, a stick-shaped rubber eraser X is adapted to be selectively extended and retracted by the dispenser 3. Also, a spare rubber eraser X' is adapted to be stored in the second chamber 16 of the tubular body 1. The dispenser 3 is removably received in the first chamber 14 of the tubular body 1 with one end section thereof projecting out of the tubular body 1 through the opened end 10. Thus, the second chamber 16 within which the spare rubber eraser X' is stored is closed by the dispenser 3.

As best shown in Fig. 2, the dispenser 3 comprises a guide sleeve 30, a tubular member 40 rotatably mounted on the guide sleeve 30, holder means 50 movably received within the guide sleeve 30 for holding the stick-shaped rubber eraser X (Fig. 1), and means for preventing axial movement of the tubular member 40 relative to the guide sleeve 30. The guide sleeve 39 has at least one axially extending slit. In the illustrated example, the guide sleeve 30 has a pair of axially extending slits 300 formed along opposite regions of a

wall thereof (only one slit 300 is shown in Fig. 2). The tubular member 40 has a spiral groove 400 formed in an inner peripheral portion thereof. The holder means 50 is formed as a one-piece member which comprises a tubular base section 500, a pair of holding pieces 501 extending from the base section 500 for holding the stick-shaped rubber eraser X therebetween, and a radially protruding projection 502 provided on an outer surface of each of the holding pieces 501. As shown in Fig. 1, each of the holding pieces 501 is slidably received in corresponding one of the axially extending slits 300 of the guide sleeve 30. The projection 502 provided on each of the holding pieces 501 projects out of the guide sleeve 30 through a corresponding slit 300 and is engaged with the spiral groove 400 of the tubular member 40 mounted on the guide sleeve 30. Incidentally, the tubular base section 500 is formed with a slit 503 axially extending along a total length of the tubular base section 500, so that a peripheral wall of the tubular base section 500 can be radially deformed in a manner to allow a diameter of the tubular base section 500 to be reduced. Therefore, incorporating of the holder means 50 into the guide sleeve 30 can be easily performed while causing the peripheral wall of the tubular base section 500 to be radially deformed in a manner to allow the diameter of the tubular base section 500 to be reduced.

The guide sleeve 30 has a first section 301 projecting from one end of the tubular member 40 mounted on the guide sleeve 30, and a second section 302 within which the holder means 50 is incorporated. The means for preventing axial movement of the tubular member 40 relative to the guide sleeve 30 comprises resilient pieces 303 formed around the first section 301 of the guide sleeve 30 by cutting regions of a peripheral wall of the first section 301, and a ring-like member 304 mounted on an end portion of the second section 302. Free ends of the resilient pieces 303 are provided with radially projecting protrusions 305. As shown in Fig. 1, one end of the tubular member 40 mounted on the guide sleeve 30 is engaged with the radially projecting protrusions 305 of the resilient pieces 303 of the guide sleeve 30. Also, the other end of the tubular member 40 mounted on the guide sleeve 30 is engaged with the ring-like member 304 mounted on the end portion of the second section 302 of the guide sleeve 30. Thus, the tubular member 40 mounted on the guide sleeve 30 is interposed between the resilient pieces 303 of the guide sleeve 30 and the ring-like member 304, whereby the tubular member 40 mounted on the guide sleeve 30 is prevented from being axially moved relative to the guide sleeve 30.

Referring to Fig. 3, there is illustrated a portion of the container which is encircled by a chain line in Fig. 1. First cooperating means on the tubular body and guide sleeve of the dispenser for preventing rotational movement of the guide sleeve of the dispenser relative to the tubular body comprises spaced apart key grooves 60

formed around a region of an inner periphery of the first chamber 14 of the tubular body 1 which is adjacent the second chamber 16 of the tubular body 1, and spaced apart keys 70 (best shown in Fig. 2) formed on the first section 301 of the guide sleeve 30 integrally with the resilient pieces 303 of the guide sleeve 30. The number of the key grooves 60 corresponds to that of the keys 70. The keys 70 are engaged with the key grooves 60, whereby rotational movement of the guide sleeve 30 of the dispenser relative to the tubular body 1 is prevented. Second cooperating means on the tubular body and dispenser for retaining the dispenser in the first chamber of the tubular body comprises first projections 80 provided at the key grooves 60 of the tubular body 1, a circumferential step portion 1a formed around an inner peripheral region between the first chamber 14 and second chamber 16 of the tubular body 1, and second projections 90 provided on the keys 70 of the guide sleeve 30. In the illustrated example, when the dispenser 3 is inserted into the first chamber 14 of the tubular body 1, the keys 70 of the guide sleeve 30 are received in and guided along the key grooves 60, during which the second projections 90 provided on the keys 70 of the guide sleeve 30 go over the first projections 80 provided at the key grooves 60 of the tubular body 1. At this time, the first section 301 of the guide sleeve 30 is abutted against the circumferential step portion 1a of the tubular body 1, whereby the second projections 90 provided on the keys 70 of the guide sleeve 30 are engaged with the first projections 80 of the tubular body 1. Thus, the dispenser 3 can be securely retained in the first chamber 14 of the tubular body 1 by the second cooperating means, and the rotational movement of the guide sleeve 30 of the dispenser 3 relative to the tubular body 1 can be prevented by the first cooperating means.

The container according to the first embodiment of the present invention may include means for preventing the container from rolling. In the illustrated example, the means 100 is formed to have a substantially trapezoidal-shape in cross section and formed integrally with an outer surface of the tubular body 1 as shown in Fig. 4. Alternatively, the tubular body 1 may be formed to have a substantially polygonal shape in cross section in order to prevent rolling of the container.

In the container of the present invention constructed as described above, extending and retracting of the stick-shaped rubber eraser X can be performed by causing any one of the tubular body 1 and tubular member 40 to be turned relative to the other with fingers. More particularly, the keys 70 of the guide sleeve 30 are engaged with the key grooves 60 of the tubular body 1, so that the guide sleeve 30 can not be turned relative to the tubular body 1. The tubular member 40 is rotatably mounted on the guide sleeve 30 which can not be turned relative to the tubular body 1, so that the tubular member 40 can be turned relative to the tubular body 1. Therefore, when the tubular member 40 of the dispenser 3 received in the first chamber 14 of the tubular

body 1 is turned, or when the tubular body 1 is turned, the holder means 50 incorporated within the guide sleeve 30 is moved axially while being guided along the axially extending slits 300 of the guide sleeve 30 and being guided along the spiral groove 400 of the tubular member 40 through the projections 502 of the holder means 50 which are engaged with the spiral groove 400 of the tubular member 40. As the holder means 50 is axially moved by turning of the tubular member 40 relative to the tubular body 1 or turning of the tubular body 1 relative to the tubular member 40, the stick-shaped rubber eraser X held by the holder means 50 can be extended outward or retracted into the guide sleeve 30 in response to the turning movement of the tubular member 40 relative to the tubular body 1 or the turning movement of the tubular body 1 relative to the tubular member 40. The stick-shaped rubber eraser X can be used in an extended state. Incidentally, the guide sleeve 30 is stopped against the circumferential step 1a of the tubular body 1 as described above, so that even if any load is applied to the stick-shaped rubber eraser X in use in such a direction to cause the dispenser 3 to be thrust into the tubular body 1, there is no possibility that the dispenser will be retracted in the tubular body 1.

When the stick-shaped rubber eraser X is consumed, resulting in the stick-shaped rubber eraser X becoming shortened and it is necessary to replace the shortened eraser X with the spare rubber eraser X' stored in the second chamber 16 of the tubular body 1, the shortened eraser X can be easily replaced with the spare rubber eraser X' by removing the dispenser 3 from the tubular body 1. More particularly, the dispenser 3 is easily removed from the tubular body 1 by drawing the dispenser 3 out of the tubular body 1. When the dispenser 3 is removed from the tubular body 1, the second chamber 16 of the tubular body 1 which has the spare rubber eraser X' contained therein is opened. In this condition, the spare rubber eraser X' can be taken out of the tubular body 1 through the opened end 10 of the tubular body 1. When the shortened rubber eraser X is to be replaced with the spare rubber eraser X', any one of the guide sleeve 30 and tubular member 40 of the removed dispenser 3 is turned to the other of the guide sleeve 30 and tubular member 40 of the removed dispenser 3 in such a direction as to cause the shortened rubber eraser X to be extended outwardly from the dispenser 3. By turning the guide sleeve 30 relative to the tubular member 40 or turning the tubular member 40 relative to the guide sleeve 30, the holder means 50 having the shortened rubber eraser X held between the holding pieces 501 thereof is moved axially while being guided along the slits 300 of the guide sleeve 30 and the spiral groove 400 of the tubular member 40. By further turning, the holding pieces 501 of the holder means 50 causes the shortened rubber eraser X to be projected out of the guide sleeve 30 while projecting from the guide sleeve 30. In state where the shortened rubber eraser X is fully extended, the shortened rubber eraser

X is removed from the holding pieces 501 with fingers. Then, the spare rubber eraser X' is held between the holding pieces 501 of the holder means 50. In this condition, by turning any one of the guide sleeve 30 and tubular member 40 relative to the other of the guide sleeve 30 and tubular member 40 in such a direction as to cause the rubber eraser X' to be retracted into the guide sleeve 30, the rubber eraser X' is retracted into the guide sleeve 30. In state where the rubber eraser X' is completely retracted into the guide sleeve 30, the dispenser 3 is inserted into the first chamber 14 of the tubular body 1.

Storage of a new spare rubber eraser in the second chamber 16 of the tubular body 1 is easily performed by causing the new rubber eraser to be put into the tubular body 1 through the opened end 10 of the tubular body 1 in state where the dispenser 3 is removed from the tubular body 1. In the illustrated example, the circumferential step portion 1a of the tubular body 1 is tapered in a manner to have a diameter which is gradually increased toward the opened end 10 of the tubular body 1 as shown in Fig. 1. Therefore, when the new spare rubber eraser is put into the tubular body 1, the tapered step portion 1a of the tubular body 1 facilitates introduction of the spare rubber eraser into the second chamber 16 of the tubular body 1.

Referring to Fig. 5, there is illustrated a container according to a second embodiment of the present invention. The container of the second embodiment is substantially similar to that of the first embodiment except that the tubular body 1 comprises clip means 2 for clipping the container to a shirt or jacket pocket or the like, the spaced apart key grooves 60 of the first cooperating means are formed in an inner tubular section of the clip means 2, and the circumferential step portion 1a is provided at the inner tubular section of the clip means 2. In the second embodiment of Fig. 5, components which are substantially similar to those shown in Figs. 1-4 are denoted with like reference numerals and the description of them will not be repeated. In the second embodiment, a stick-shaped rubber eraser X is adapted to be selectively extended and retracted by the dispenser 3 and writing leads Y are stored in the second chamber 16 of the tubular body 1.

The clip means 2 is formed of synthetic resin material and made as a one piece member which comprises an inner tubular section 200, a clip section 202, and a ring-like intermediate section 204 interconnecting the inner tubular section 200 and the clip section 202. The clip section 202 extends longitudinally from the intermediate section 204. The clip means 2 is fixedly attached to the tubular body 1 with the intermediate section 204 thereof being fitted on the opened end 10 of the tubular body 1 and with the inner tubular section 200 being received in the first chamber of the tubular body 1. In the tubular body to which the clip means 2 is attached in such a manner as described above, the inner tubular section 200 of the clip means 2 constitutes the first

chamber 14 of the tubular body 1. The inner tubular section 200 of the clip member 2 has an end portion 206 which has an inner periphery of a substantially funnel-shape having a diameter which is gradually increased toward the second chamber 16 of the tubular body 1. The tapered step portion 1a of the second cooperating means is provided at a inner region adjacent the funnel-shaped inner periphery of the end portion 206 of the inner tubular section 200. The intermediate section 200 has an inner peripheral projection 208. Bearing on this, the tubular body 1 is formed with a circumferential groove 1b at a region thereof which positionally corresponds to the inner peripheral projection 208 when the clip means 2 is attached to the tubular body 1. The inner peripheral projection 208 of the intermediate section 204 is fitted in the circumferential groove 1b of the tubular body 1, whereby the clip means 2 is fixedly attached to the tubular body 1. The spaced apart key grooves 60 of the first cooperating means are formed around an inner peripheral region of the inner tubular section 202 which is adjacent the tapered step portion 1a of the second cooperating means. The first projections 80 of the second cooperating means are provided at the spaced apart key grooves 60 of the first cooperating means.

In the second embodiment constructed as described above, the dispenser 3 is removably received in the inner tubular section 202 of the clip means 2 which constitutes the first chamber 14 of the tubular body 1. When the dispenser 3 is inserted into the inner tubular section 200 of the clip means 2 through an opened end of the intermediate section 204, the keys 70 of the dispenser 3 are engaged with the key grooves 60 formed in the inner tubular section 200 of the clip means 2, whereby rotational movement of the guide sleeve 30 of the dispenser 3 relative to the tubular body 1 having the clip means 2 attached thereto is prevented. Also, when the dispenser 3 is inserted into the inner tubular section 202 of the clip means 2 which constitutes the first chamber 14 of the tubular body 1, the keys 70 of the guide sleeve 30 are received in and guided along the key grooves 60 formed in the inner tubular section 200 of the clip means 2, during which the second projections 90 provided on the keys 70 of the guide sleeve 30 go over the first projections 80 provided at the key grooves 60 formed in the inner tubular section 200 of the clip means 2. At this time, the first section 301 of the guide sleeve 30 is abutted against the circumferential step portion 1a provided at the inner tubular section 200 of the clip means 2, whereby the second projections 90 provided on the keys 70 of the guide sleeve 30 are engaged with the first projections 80 provided at the inner tubular section 200 of the clip means 2. Thus, the dispenser 3 can be securely retained through the second cooperating means in the inner tubular section 200 constituting the first chamber 14 of the tubular body 1, and the rotational movement of the guide sleeve 30 of the dispenser 3 relative to the tubular body 1 having the clip means 2 attached thereto can be prevented by the

first cooperating means.

In the second embodiment, the end portion 206 of the inner tubular section 200 has the inner periphery of a substantially funnel-shape having a diameter which is gradually increased toward the second chamber 16 of the tubular body 1 as described above. Therefore, when the writing leads Y contained within the second chamber 16 of the tubular body 1 are to be taken out of the container, such funnel-shaped end portion 206 of the inner tubular section 200 of the clip means 2 facilitates introduction of the writing leads toward the inner tubular section 200 of the clip means 2 which constitutes the first chamber 14 of the tubular body 1. Also, the dispenser 3 is received in the inner tubular section 200 of the clip means 2 fixedly attached to the tubular body 1, so that the dispenser 3 can be protected from any external force.

The terms and expressions which have been employed are used as terms of description and not of limitation, and there is no intention in the use of such terms and expression of excluding any equivalents of the features shown and described, or portion thereof, but it is recognized that various modifications are possible within the scope of the invention claimed.

Claims

1. A container with a dispenser for selectively extending and retracting a substantially stick-shaped object, comprising:
 - a container body having an opened end, a closed end, a first chamber adjacent said opened end, and a second chamber adjacent said closed end for containing at least one object therein;
 - said first and second chambers communicating with each other; and
 - a dispenser for selectively extending and retracting a substantially stick-shaped object;
 - said dispenser being removably received in said first chamber of said container body, whereby said second chamber of said container body is closed.
2. A container as defined in claim 1, wherein said container body comprises a tubular body having said opened end, said closed end, and said first and second chambers; and wherein said dispenser comprises a guide sleeve having at least one axially extending slit, a tubular member rotatably mounted on said guide sleeve, said tubular member having a spiral groove formed in an inner peripheral portion thereof, and holder means movably received in said guide sleeve for holding said substantially stick-shaped object, said holder means including at least one projection, said at least one protrusion projecting out of said at least one slit of said guide sleeve

and being engaged with said spiral groove of said tubular member removably mounted on said guide sleeve.

3. A container as defined in claim 2, further including first cooperating means on said tubular body and said guide sleeve for preventing rotational movement of said guide sleeve relative to said tubular body, and second cooperating means on said tubular body and said dispenser for retaining said dispenser in said first chamber of said tubular body. 5 10
4. A container as defined in claim 2, further including means provided on said guide sleeve for preventing axial movement of said tubular member relative to said guide sleeve. 15
5. A container as defined in claim 3, further including means provided on said guide sleeve for preventing axial movement of said tubular member relative to said guide sleeve. 20
6. A container as defined in claim 2, further including means for preventing said tubular body from rolling. 25
7. A container as defined in claim 3, further including means for preventing said tubular body from rolling.
8. A container as defined in claim 2, wherein said tubular body is formed to have a substantially polygonal shape in cross section, whereby said container is prevented from rolling. 30
9. A container as defined in claim 3, wherein said tubular body is formed to have a substantially polygonal shape in cross section, whereby said container is prevented from rolling. 35
10. A container as defined in claim 1, wherein said container body comprises clip means for clipping said container to a shirt or jacket pocket or the like. 40
11. A container as defined in claim 10, wherein said clip means is made as a one piece member which comprises an inner tubular section, a clip section and a ring-like intermediate section interconnecting said inner tubular section and said clip section: wherein said container body comprises a tubular body having said opened end, said closed end, and said first and second chambers, and wherein said dispenser comprises a guide sleeve having at least one axially extending slit, a tubular member rotatably mounted on said guide sleeve, said tubular member having a spiral groove formed in an inner peripherals portion thereof, and holder means movably received in said guide sleeve for holding said substantially stick-shaped object, said holder means including at least one projection, said at least one protrusion project-

ing out of said at least one slit of said guide sleeve and being engaged with said spiral groove of said tubular member movably mounted on said guide sleeve, said clip means being fixedly attached to said tubular body with said inner tubular section thereof being received in said first chamber to thereby constituting said first chamber, said dispenser being received in said first chamber of said inner tubular section.

12. A container as defined in claim 11, further including first cooperating means on said tubular body and said guide sleeve for preventing rotational movement of said guide sleeve relative to said tubular body, and second cooperating means on said tubular body and said dispenser for retaining said dispenser in said first chamber of said tubular body.
13. A container as defined in claim 11, further including means provided on said guide sleeve for preventing axial movement of said tubular member relative to said guide sleeve.
14. A container as defined in claim 12, further including means provided on said guide sleeve for preventing axial movement of said tubular member relative to said guide sleeve.

FIG. 1

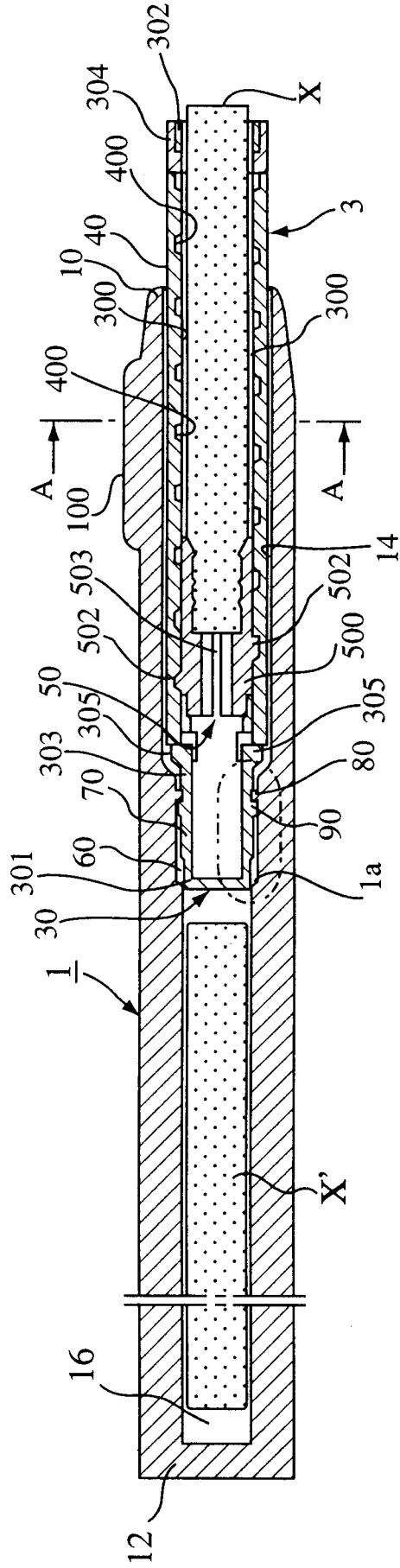


FIG. 3

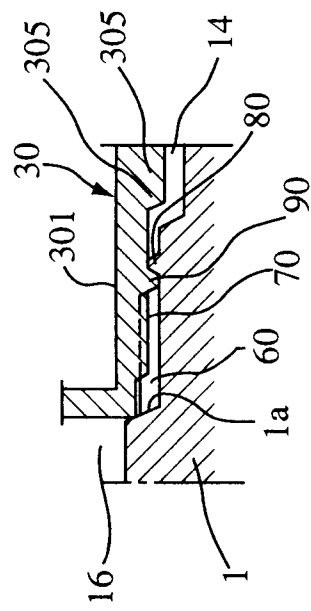


FIG. 4

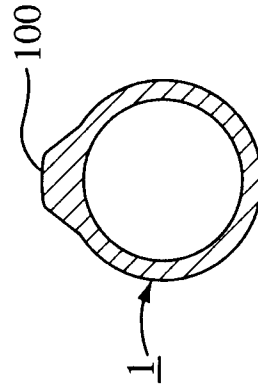


FIG. 2

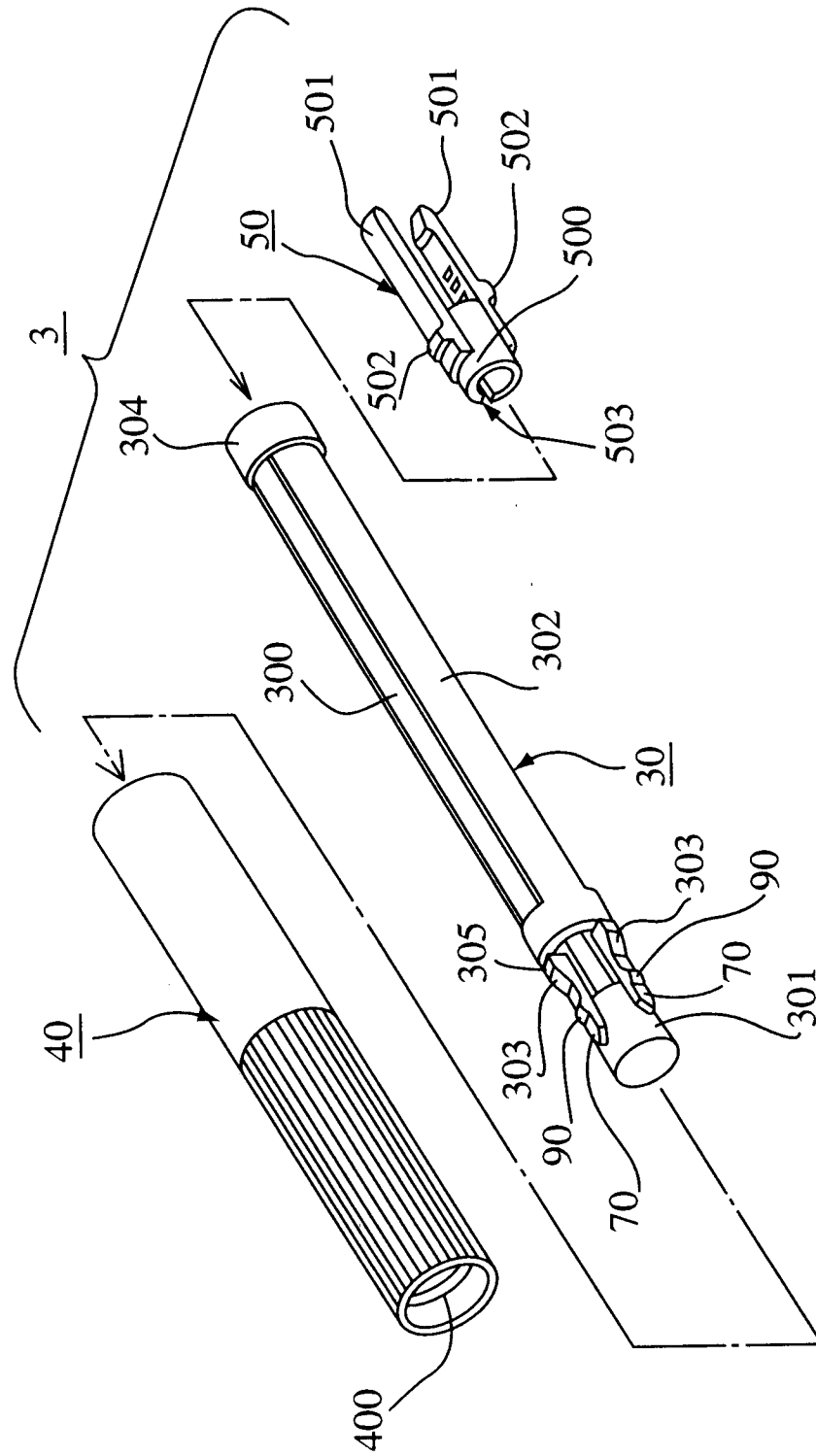


FIG. 5

