

(19)



(11)

EP 2 886 003 B1

(12)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention
of the grant of the patent:
05.04.2017 Bulletin 2017/14

(51) Int Cl.:
A45D 34/00 (2006.01) **B65D 47/34** (2006.01)
B65D 83/76 (2006.01) **B05B 11/00** (2006.01)

(21) Application number: **15152880.9**

(22) Date of filing: **10.02.2012**

(54) Nozzle structure of dispenser pump button

Düsenstruktur für einen Spenderpumpenknopf

Structure de buse de bouton de distributeur à pompe

(84) Designated Contracting States:
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR**

(30) Priority: **10.02.2011 KR 20110011692**

(43) Date of publication of application:
24.06.2015 Bulletin 2015/26

(62) Document number(s) of the earlier application(s) in
accordance with Art. 76 EPC:
12744819.9 / 2 674 057

(73) Proprietor: **Yonwoo Co., Ltd.**
Incheon 404-250 (KR)

(72) Inventor: **Jung, Seo-Hui**
404-250 Incheon (KR)

(74) Representative: **Patentanwaltskanzlei WILHELM
& BECK**
Prinzenstraße 13
80639 München (DE)

(56) References cited:
WO-A1-2010/050441 JP-A- 2010 215 245
JP-U- H04 102 276

EP 2 886 003 B1

Note: Within nine months of the publication of the mention of the grant of the European patent in the European Patent Bulletin, any person may give notice to the European Patent Office of opposition to that patent, in accordance with the Implementing Regulations. Notice of opposition shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

Description

Technical Field

[0001] The present invention relates to a nozzle structure of a dispenser pump button, and in particular to a nozzle structure of a dispenser pump button which has features in that an outer nozzle with discharge hole moves in a forward direction by the pressure of contents, and the contents can be discharged through a space distanced from an inner nozzle, thus preventing a deformation of a nozzle, and the spoilage of the contents can be prevented by blocking the inflow of air into the interior of a cosmetic container.

Background Art

[0002] The dispenser is a device which is generally coupled to the top of a sealed container full of gas, liquid or a certain content and serves to discharge the contents of the interior of the sealed container by a certain amount by the pressing pressure. The above mentioned dispenser is applied to various sealed containers which store cosmetics, perfume or chemicals or foods. At the top of the dispenser is provided a button that a user presses with hands.

[0003] At the button for the above mentioned dispenser is provided a nozzle through which to discharge the contents to the outside. From now on, the structure of the nozzle for a conventional dispenser button will be described with reference to the Korean Utility Model Registration No. 20-0418954.

[0004] In the above Korean Utility Model Registration No. 20-0418954, there is provided a cosmetic discharge pump which has features in that the contents can be discharged as the discharge portion of a cut-away nozzle is open by a discharge pressure of contents as a user presses a press button of a discharge pump, which cosmetic discharge pump further comprises a sealed shaft 30 in the interior of the nozzle 22 so as to more stably block the discharge portion 41.

[0005] However, the above mentioned conventional nozzle structure for a dispenser button has features in that the contents are discharged as the discharge portion 41 is widened by the pressure of the contents in a state that the sealed shaft 30 and the rubber tube 40 are fixed, so the discharge portion 41 keeps deforming while it is used, so air may be inputted into the interior of the cosmetic container through the discharge portion 41, which results in the spoilage of the contents.

Disclosure of Invention

[0006] Accordingly, the present invention is made to resolve the above mentioned problems. From the following, to make the account clear, "to the left direction" in the Fig. 8 and 9 is defined as "forward" and "to the right direction" in 8 and 9 is defined as "backward". It is an

object of the present invention to provided a combination of a dispenser pump and a nozzle structure of a dispenser pump button which has features in that an outer nozzle with discharge hole moves in a forward direction by the pressure of contents, and the contents can be discharged through a space distanced from an inner nozzle, thus preventing a deformation of a nozzle, and the spoilage of the contents can be prevented by blocking the inflow of air into the interior of a cosmetic container.

[0007] To achieve the above objects, there is provided a combination of a dispenser pump and a nozzle structure of a dispenser pump according to claim 1.

[0008] In addition, at the inner surface of the inner nozzle 500 is formed an engaging groove 530 at which the elastic member fixing part 800 is fixed, and at the elastic member fixing part 800 is formed an engaging protrusion 821 which is engaged to the engaging groove 530.

[0009] In addition, at the end of the blocking rod 520 is formed a protrusion 521 which protruded towards the outside of the outer nozzle 600.

Advantageous effects

[0010] According to the present invention, an outer nozzle with discharge hole moves in a forward direction by the pressure of contents, and the contents can be discharged through a space distanced from an inner nozzle, thus preventing a deformation of a nozzle, and the spoilage of the contents can be prevented by blocking the inflow of air into the interior of a cosmetic container.

[0011] The nozzle is made in a module type by which the nozzle can be easily detachable from the button, which helps design various buttons, and only the nozzle can be separately assembled and inspected during the manufacture process for thereby achieving a lowered defective ratio, which leads to the increased productivity.

Brief Description of Drawings

[0012]

Figure 6 is a cross sectional view illustrating a state that a nozzle of a dispenser pump button is coupled to a button according to another embodiment of the present invention.

Figure 7 is a disassembled cross sectional view illustrating a state that a nozzle of a dispenser pump button is coupled to a button according to another embodiment of the present invention.

Figure 8 is a disassembled perspective view illustrating a construction of a nozzle structure of a dispenser pump button according to another embodiment of the present invention.

Figure 9 is a view illustrating an operation procedure of a nozzle of a dispenser pump button according to another embodiment of the present invention.

Best modes for carrying out the invention

[0013] The present invention will be described with reference to the accompanying drawings, and the same reference numerals appearing in the drawings represent same elements.

[0014] The nozzle structure of the dispenser pump button according to the embodiment of the present invention will be described with reference to Figures 6 to 9.

[0015] Figure 6 is a cross sectional view illustrating a state that a nozzle of a dispenser pump button is coupled to a button according to another embodiment of the present invention. Figure 7 is a disassembled cross sectional view illustrating a state that a nozzle of a dispenser pump button is coupled to a button according to another embodiment of the present invention.

[0016] Figure 8 is a disassembled perspective view illustrating a construction of a nozzle structure of a dispenser pump button according to another embodiment of the present invention. Figure 9 is a view illustrating an operation procedure of a nozzle of a dispenser pump button according to another embodiment of the present invention.

[0017] As shown in Figures 6 to 9, the nozzle structure of the dispenser pump button according to another embodiment of the present invention comprises an inner nozzle 500, an outer nozzle 60, an elastic member 700, and an elastic member fixing part.

[0018] The inner nozzle 500 is formed in a cylindrical shape which is coupled to the discharge portion 11 of the dispenser pump button 10 and comprises a plurality of content inflow holes 510 which are formed at the rear end at regular intervals for the sake of inflow of contents which are discharged through the discharge portion 11.

[0019] At the inner nozzle 500 is provided a blocking rod 520 which protrudes from the center of the end of the rear side to the front side for thereby opening and closing the discharge holes 621 as the outer nozzle 600 moves forwards or backwards. It is preferred that at the end portion of the blocking rod 520 is provided a protrusion 521 which protrudes to the outside of the outer nozzle 600 in order to prevent the contents from gathering at the space formed by the blocking rod 520 and the outer nozzle 600.

[0020] Since the protrusion 521 is formed at the locking rod 520, it is easy to recognize the opening and closing of the nozzle from the outside when the nozzle moves.

[0021] In the present invention, there is provided an engaging groove 530 at the inner surface of the inner nozzle 500 for securing the elastic member fixing part 800. To the engaging groove 530 is engaged the engaging protrusion 821 of the elastic member fixing part 800 for the engagement with the elastic member fixing part 800.

[0022] The outer nozzle 600 is engaged surrounding the blocking rod 520 and moves forwards or backwards by the pressure of the contents "a" or the elastic force of the elastic member 700 and comprises a mounting part 61 and a content movement tube 620.

[0023] The mounting part 610 is mounted at the inner end of the inner nozzle 500 and supports the elastic member 700. At the front side of the same is mounted the elastic member 700 for thereby pressurizing the elastic member 700 while the contents is discharged, so the elastic member 700 is contracted. When the discharge of the contents stop, the outer nozzle 600 moves backwards by the elastic force of the elastic member 700.

[0024] In the present invention, the mounting part 610 is formed in a cylindrical shape, and the front end 611 and the end portion 612 of the cylindrical mounting part 610 are formed in the piston structure which comes into contact with the wall surface of the inner side of the elastic member fixing part 800. With the above mentioned construction, the movements of the outer nozzle 600 can be prevented, which results in constant discharges while preventing the leak of the contents.

[0025] The content movement tube 620 extends from the center of the front side of the mounting part 610 to the forward side for thereby forming a passage through which the contents "a" inputted through the content inflow holes 510 of the inner nozzle 500 move and comprises a discharge hole 621 at the end portion, which is opened and closed by the blocking rod 520 in order for the inputted contents "a" to be discharged to the outside.

[0026] The elastic member 700 is engaged surrounding the outer nozzle 600 and moves backwardly the outer nozzle 600, one end of the elastic member 700 being mounted at the mounting part 610 of the outer nozzle 600, the other end of the same being mounted at the elastic member mounting shoulder 810 of the elastic member fixing part 800.

[0027] The elastic member 700 is contracted by the movements of the outer nozzle 600 which moves forwards by the pressure of the contents "a" when the button 10 is pressed, and the elastic member 700 is released as the pressed button 10 is released for thereby providing the elastic force to the outer nozzle 600, so the outer nozzle 600 can move backwards.

[0028] The elastic member fixing part 800 is engaged surrounding the outer nozzle 600 and the elastic member 700 for thereby fixing the elastic member 700. There is provided an elastic member mounting shoulder 810 which is bent in an inward direction in order for the elastic member 700 to be fixed.

[0029] The elastic member mounting shoulder 810 supports one side of the elastic member 700 when the outer nozzle 600 moves forwards, by which the elastic member 700 can be contracted.

[0030] At the rear side of the elastic member fixing part 800 is provided an engaging part 820 which is engaged to the inner side of the inner nozzle 500. It is preferred that at the engaging part 820 is provided an engaging protrusion 821 which corresponds to the engaging groove 530 for the sake of the engagement with the inner nozzle 500.

[0031] At the outer surface of the elastic member fixing part 800 is provided an engaging protrusion 830 engaged

to the engaging groove 12. For an easier engagement to the engaging groove 12 formed at the discharge portion 11 of the dispenser pump button 10 through the engaging protrusion 830, the nozzle is made in the nozzle type, so the present invention can be well applied to various designs of buttons. Only the nozzle can be assembled and inspected during the manufacture process for thereby achieving lowered defect ratios and enhancing productivity.

[0032] In the nozzle of the present invention, the inner nozzle 500 and the elastic member fixing part 800 are engaged by the engaging groove 530 formed at the inner surface of the inner nozzle 500 and the engaging protrusion 821 formed at the outer surface of the elastic member fixing part 800, so the inner nozzle 500, the outer nozzle 600, the elastic member 700 and the elastic member fixing part 800 can be made in a module type.

[0033] The operations of the nozzle of a dispenser pump button according to another embodiment of the present invention will be described with reference to Figure 9.

[0034] As shown in Figure 9, the contents "a" is discharged through the discharge portion 11 when a user presses the button 100 in the operations of the nozzle of the dispenser pump button according to another embodiment of the present invention. At this time, the contents "a" is inputted into the content movement tube 620 of the outer nozzle 600 through the content inflow hole 510.

[0035] The outer nozzle 600 is pressurized by the contents "a" while the contents "a" moves into the content movement tube 620, and the outer nozzle 600 moves forwardly by the pressure of the contents "a". When the outer nozzle 600 moves forwards, the discharge hole 621 which remains closed by the blocking rod 520 of the inner nozzle 500, is opened, so the contents "a" can be discharged to the outside through the discharge hole 621.

[0036] When the user releases the pressed button 10, the movements of the contents "a" stop. At this time, the elastic member 700, which was contracted by the forward movement of the outer nozzle 600 returns to its initial state for thereby providing elastic force to the outer nozzle 600, so the outer nozzle 600 can move backwards. When the outer nozzle 60 moves backwards, the discharge hole 621 is closed by the blocking rod 520 of the inner nozzle 500, so the discharge of the contents "a" is blocked.

Claims

1. Combination of a dispenser pump and a nozzle structure of a dispenser pump, the dispenser pump comprising a pump button (10) with a discharging portion (11) for thereby discharging contents to the outside, wherein the nozzle structure is engaged to the discharging portion (11) and wherein the nozzle structure comprising an inner nozzle (500) which is formed in a cylindrical shape engaged to the discharge portion (11) and

has a plurality of content inflow holes (510) formed at an end portion of a rear surface and spaced apart at regular intervals, and a blocking rod (520) which forwardly protrudes from the center of an end of the rear surface;

an outer nozzle (600) moveable backwards and forwards and the outer nozzle (600) moves forward by pressure of the contents thereby opening a discharging hole (621) and including:

a cylindrical mounting part (610) which is engaged surrounding surrounds the blocking rod (520) and is mounted at an end of the inner side of the inner nozzle (500), and a front end (611) and an end portion (612) of the cylindrical mounting part (610) are formed in a piston structure coming into contact with the end of the inner side of the inner nozzle (500); and a content movement tube (620) which forwardly extends from the center of the front surface of the mounting part (610) for thereby forming a passage through which the contents move and has a the discharge hole (621) which is opened and closed by the blocking rod (520);

an elastic member (700) which surrounds the outer nozzle (600) and is mounted at the mounting part (610) and moves backwards the outer nozzle (600); and

an elastic member fixing part (800) which is engaged surrounding the outer nozzle (600) and the elastic member (700) and has an elastic member mounting shoulder (810) at the front surface in the inward direction for thereby mounting the elastic member (810), and an engaging part (820) at the rear surface, which is engaged at an inner side of the inner nozzle (50).

2. The structure of claim 1, wherein at the inner surface of the inner nozzle (500) is formed an engaging groove (530) at which the elastic member fixing part (800) is fixed, and at the elastic member fixing part (800) is formed an engaging protrusion (821) which is engaged to the engaging groove (530).
3. The structure of claim 1, wherein at the end of the blocking rod (520) is formed a protrusion (521) which protruded towards the outside of the outer nozzle (600).

Patentansprüche

1. Kombination aus einer Spenderpumpe und einer Düsenstruktur einer Spenderpumpe, wobei die Spenderpumpe einen Pumpenknopf (10) mit einem Abgabeteil (11) zur Abgabe von Inhalt dadurch nach außen umfasst, wobei die Düsenstruktur mit dem

Abgabeteil (11) in Eingriff steht und wobei die Düsenstruktur Folgendes umfasst:

eine in zylindrischer Form ausgebildete Innendüse (500), die mit dem Abgabeteil (11) in Eingriff steht und mehrere Inhaltszustromlöcher (510), die an einem Endteil einer Rückfläche ausgebildet und in gleichmäßigen Abständen voneinander angeordnet sind, und eine Blockierstange (520), die von der Mitte eines Endes der Rückfläche nach vorne ragt, aufweist; eine Außendüse (600), die nach hinten und nach vorne beweglich ist, wobei sich die Außendüse (600) durch Druck des Inhalts nach vorne bewegt und dadurch ein Abgabeloch (621) öffnet, und die Folgendes enthält:

ein zylindrisches Befestigungsteil (610), das die Blockierstange (520) umgebend in Eingriff steht und an einem Ende der Innenseite der Innendüse (500) befestigt ist, und wobei ein vorderes Ende (611) und ein Endteil (612) des zylindrischen Befestigungsteils (610) in einer Kolbenstruktur ausgebildet sind, die mit dem Ende der Innenseite der Innendüse (500) in Kontakt kommt; und

ein Inhaltsbewegungsrohr (620), das sich von der Mitte der Vorderfläche des Befestigungsteils (610) nach vorne erstreckt, um dadurch einen Durchgang zu bilden, durch den sich der Inhalt bewegt, und das Abgabeloch (621) aufweist, das durch die Blockierstange (520) geöffnet und geschlossen wird;

ein elastisches Glied (700), das die Außendüse (600) umgibt und an dem Befestigungsteil (610) befestigt ist und die Außendüse (600) nach hinten bewegt; und

ein Teil (800) zum Fixieren des elastischen Glieds, das die Außendüse (600) und das elastische Glied (700) umgebend in Eingriff steht und an der Vorderfläche in Einwärtsrichtung eine Schulter (810) zur Befestigung des elastischen Glieds aufweist, um dadurch das elastische Glied (810) zu befestigen, sowie an der Rückfläche ein Eingriffsteil (820), das an einer Innenseite der Innendüse (50) in Eingriff steht.

2. Struktur nach Anspruch 1, wobei an der Innenfläche der Innendüse (500) eine Eingriffsnut (530) ausgebildet ist, an der das Teil (800) zum Fixieren des elastischen Glieds fixiert ist, und an dem Teil (800) zum Fixieren des elastischen Glieds ein Eingriffsvorsprung (821) ausgebildet ist, der mit der Eingriffsnut (530) in Eingriff steht.

3. Struktur nach Anspruch 1, wobei am Ende der Blockierstange (520) ein Vorsprung (521) ausgebildet ist, der zu der Außenseite der Außendüse (600) ragt.

Revendications

1. Combinaison d'une pompe de distribution et d'une structure de buse d'une pompe de distribution, la pompe de distribution comprenant un bouton de pompe (10) comportant une partie d'éjection (11) permettant d'éjecter un contenu vers l'extérieur, la structure de buse étant assemblée à la partie d'éjection (11) et la structure de buse comprenant une buse intérieure (500) qui est réalisée sous une forme cylindrique assemblée à la partie d'éjection (11) et comporte une pluralité de trous d'entrée de contenu (510) formés au niveau d'une partie d'extrémité d'une surface arrière et espacés à intervalles réguliers, et une tige de blocage (520) qui fait saillie vers l'avant à partir du centre d'une extrémité de la surface arrière ; une buse extérieure (600) pouvant être déplacée vers l'arrière et vers l'avant et la buse extérieure (600) se déplace vers l'avant sous l'effet de la pression du contenu, ce qui ouvre un trou d'éjection (621), et comprenant :

une partie de montage cylindrique (610) qui est assemblée de façon à entourer la tige de blocage (520) et est montée au niveau d'une extrémité du côté intérieur de la buse intérieure (500), et une extrémité avant (611) et une partie d'extrémité (612) de la partie de montage cylindrique (610) sont formées dans une structure de piston venant en contact avec l'extrémité du côté intérieur de la buse intérieure (500); et un tube de déplacement de contenu (620) qui s'étend vers l'avant à partir du centre de la surface avant de la partie de montage (610) de façon à former ainsi un passage à travers lequel se déplace le contenu et comporte le trou d'éjection (621) qui est ouvert et fermé par la tige de blocage (520) ;

un élément élastique (700) qui entoure la buse extérieure (600) et est monté au niveau de la partie de montage (610) et déplace la buse extérieure (600) vers l'arrière ; et

une partie de fixation d'élément élastique (800) qui est assemblée de façon à entourer la buse extérieure (600) et l'élément élastique (700) et comporte un épaulement de montage d'élément élastique (810) au niveau de la surface avant dans la direction allant vers l'intérieur de manière à monter ainsi l'élément élastique (810), et une partie d'assemblage (820) au niveau de la surface arrière, qui est assemblée au niveau d'un côté intérieur de la buse intérieure (50).

2. Structure selon la revendication 1, dans laquelle sont formées, au niveau de la surface intérieure de la buse intérieure (500), une rainure d'assemblage (530) à laquelle est fixée la partie de fixation d'élément élastique (800), et au niveau de la partie de fixation d'élément élastique (800), une protubérance d'assemblage (821) qui est assemblée à la rainure d'assemblage (530). 5
3. Structure selon la revendication 1, dans laquelle est formée, au niveau de l'extrémité de la tige de blocage (520), une protubérance (521) qui fait saillie en direction de l'extérieur de la buse extérieure (600). 10

15

20

25

30

35

40

45

50

55

Fig. 6

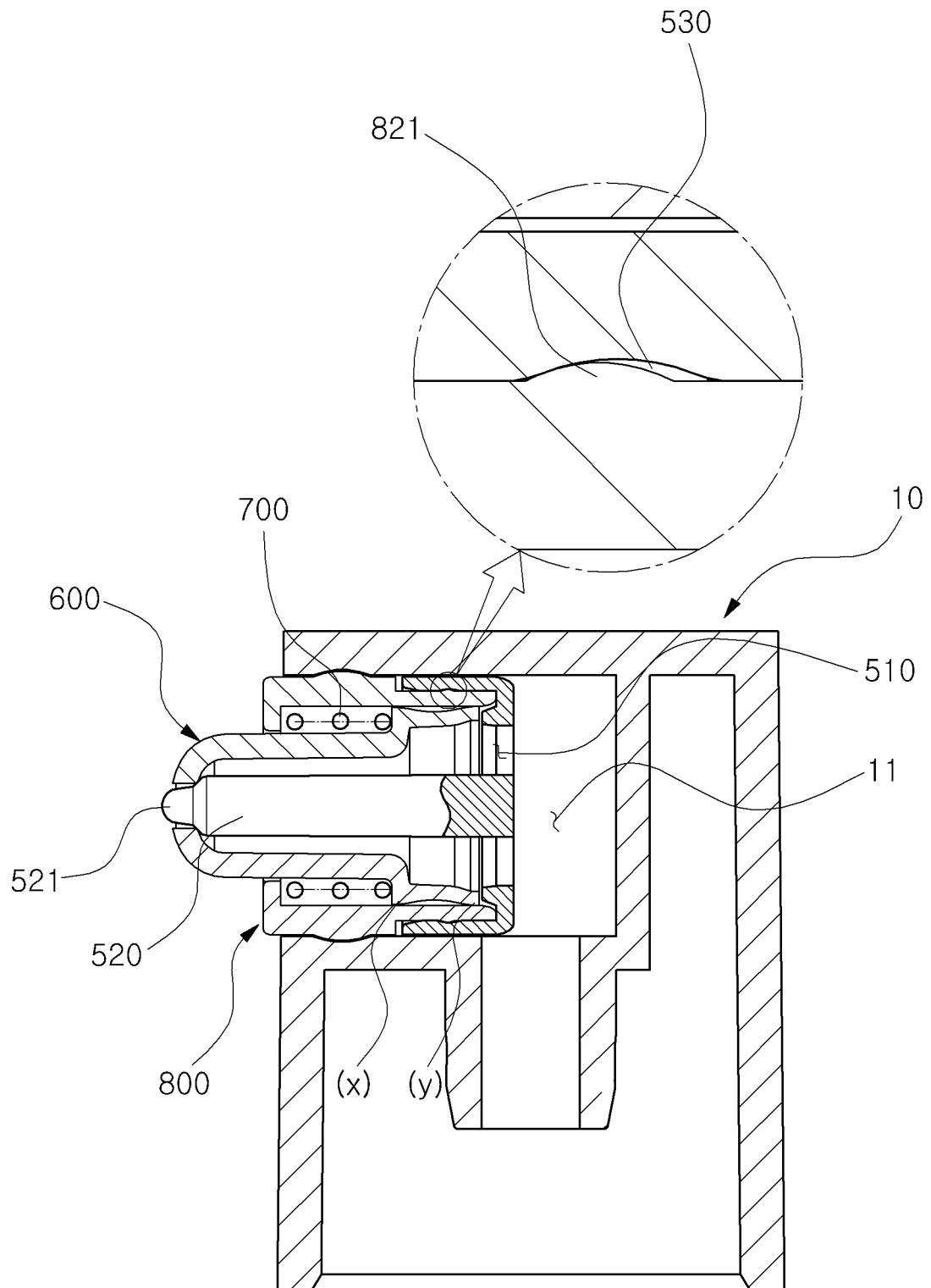


Fig. 7

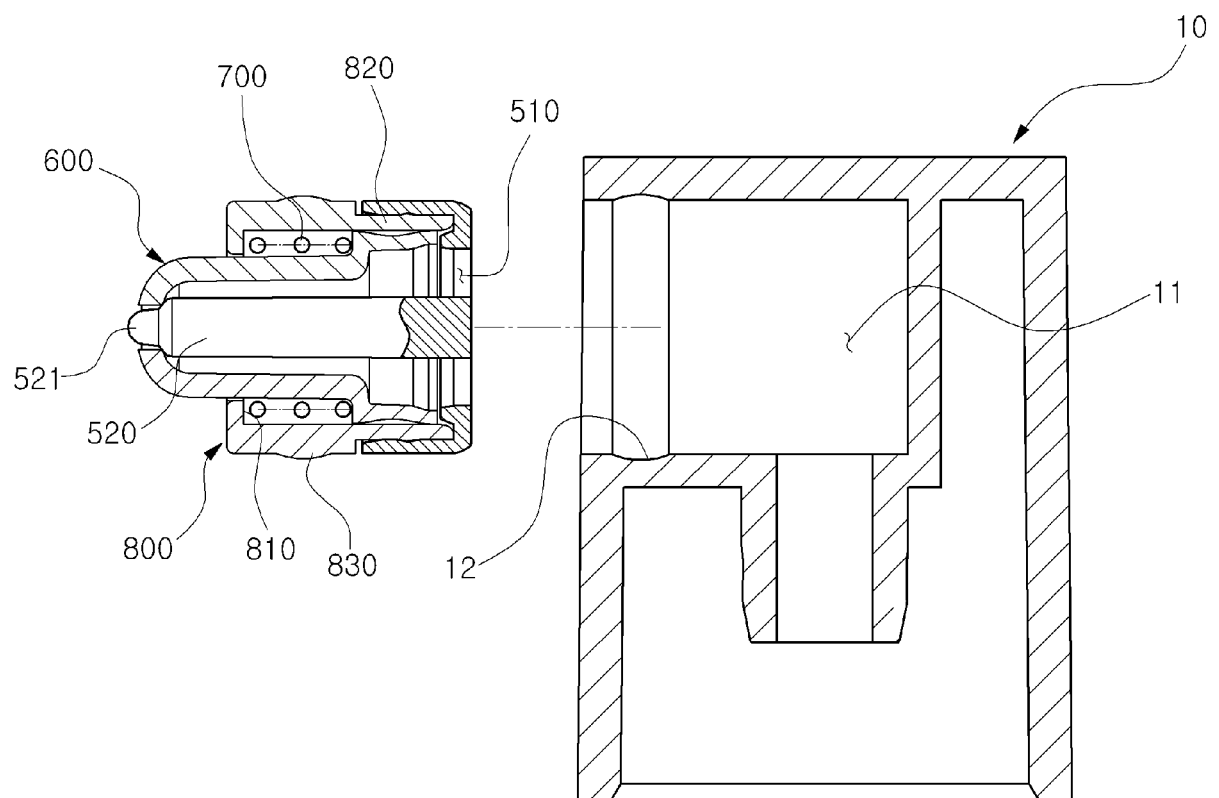


Fig. 8

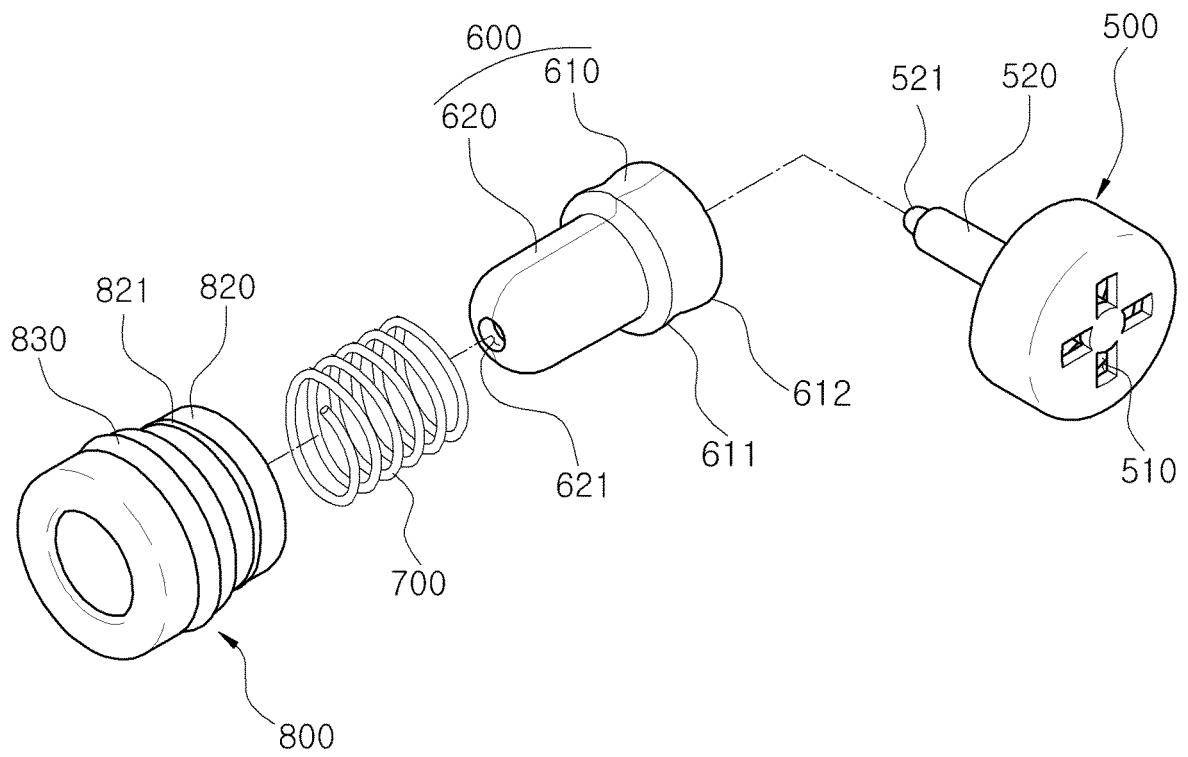
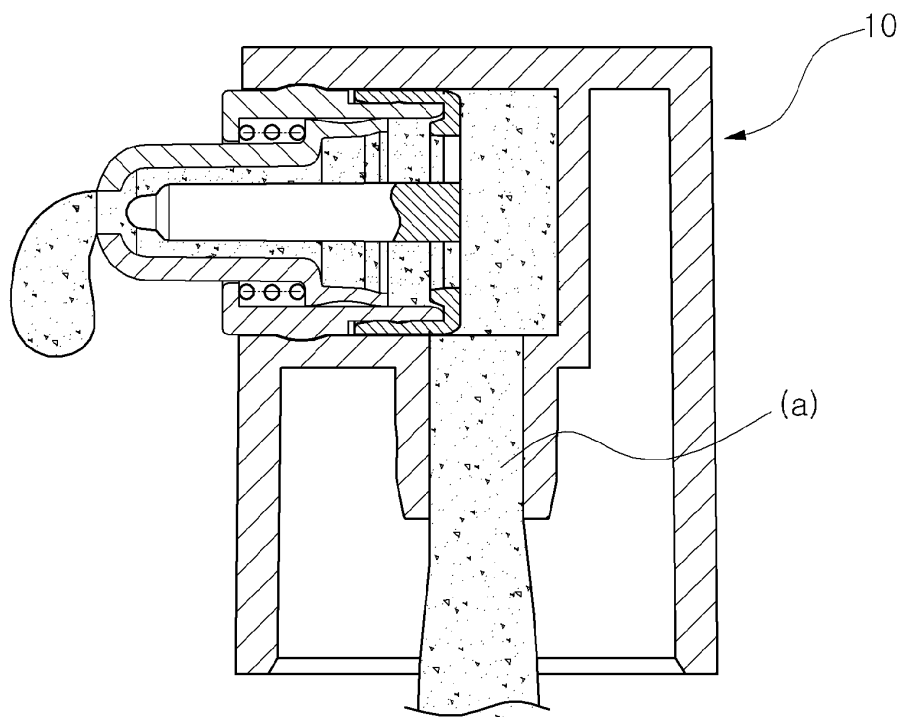
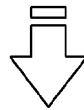
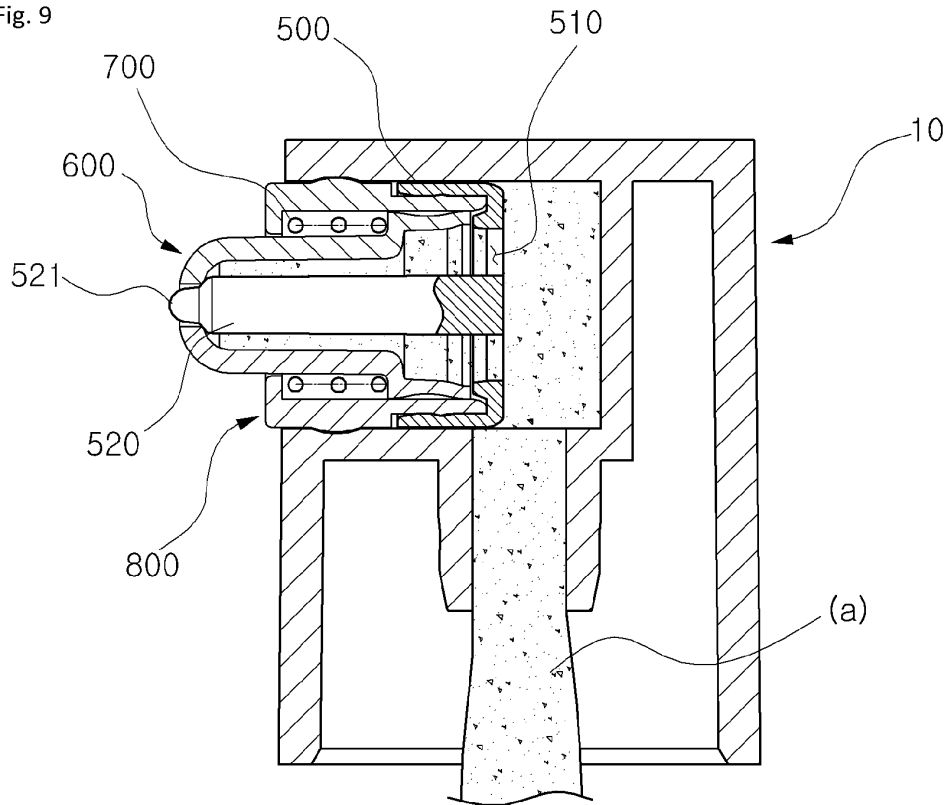


Fig. 9



REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- KR 200418954 [0003] [0004]