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DESCRIPTION

(a) Technical Field of the Invention

[0001] The present invention relates to an emergency repair kit for punctured tires and, more particularly, to an emergency repair kit that can inflate and repair punctured tires.

(b) Description of the Prior Art

[0002] Conventionally, emergency repair kits for inflating and repairing punctured tires include a box and a sealant dispenser, wherein the box accommodates a compressor unit therein, and the sealant dispenser contains a chemical sealant. Some repair kits employ one hose connected between the sealant dispenser and the compressor unit within the box, and employ another hose connected between the sealant dispenser and a punctured tire. In operation, vibrations may cause displacement or overturn of the sealant dispenser. For some repair kits, in use, the sealant dispenser is placed on top of the box which contains the compressor unit.

[0003] They are also subjected to the problem of stability.

[0004] Another conventional design of an emergency repair kit for inflating and repairing punctured tires is known from document WO 2013/157469 A1, which discloses an apparatus according to the preamble of claim 1 and wherein the emergency repair kit includes a box for accommodating a compressor unit, and a sealant dispenser bottle for receiving compressed air supplied from the compressor unit and delivering a chemical sealant to a punctured tire, wherein the dispenser bottle is detachably coupled to the box by a securing structure having a box connecting portion that is fixed to the box and a dispenser receiving portion linked to the box connecting portion and configured for receiving the dispenser bottle. However this conventional design requires a rather large storage and installation space.

[0005] In view of the foregoing, the applicant intends to develop another emergency repair kit that allows a sealant dispenser thereof to stand more firmly on a surface, so that a punctured tire can be inflated and repaired more safely and effectively.

SUMMARY OF THE INVENTION

[0006] One object of the present invention is to provide an emergency repair kit for punctured tires, which comprises a box and a sealant dispenser, wherein the box accommodates a compressor unit therein, and the sealant dispenser contains a chemical sealant. The sealant dispenser can be detachably coupled to the box by a basket, so that the sealant dispenser can stand more firmly on a surface and thus prevents displacement or overturn due to vibrations,

thereby increasing the stability and safety of the sealant dispenser and facilitating operation of the emergency repair kit.

[0007] According to one feature of the present invention, when the sealant dispenser is not in use, a sealant hose with a hose adapter can be stored in the basket, and the hose adapter is capable of being threadedly sealed by a rotary handle, so that, in case the switch provided on the box is unintentionally turned on, the chemical sealant contained in the sealant dispenser can be prevented from flowing out of the hose adapter of the sealant hose. When the sealant dispenser is required for repairing a punctured tire, the sealant hose can be taken out of the basket, and the rotary handle can be threadedly removed from the hose adapter of the sealant hose and then mounted to the sealant dispenser.

[0008] According to another feature of the present invention, the sealant dispenser generally includes a bottle and a cap mounted over a top opening of the bottle, wherein the cap is provided with a protrusion for engaging with a hole of the basket, so that the basket is connected to the sealant dispenser.

[0009] According to a further feature of the present invention, in operation, the rotary handle can be turned by a user to have an elongated rod push a control valve provided in the bottle, so that compressed air supplied from the compressor unit can flow into the bottle to force the chemical sealant to flow out of the bottle.

[0010] According to a still further feature of the present invention, the cap is provided with a short post, wherein two adjacent sides of a cross section of the short post are formed into a right-angled part. The rotary handle defines a track along the cylindrical shell thereof. The track extends from an entrance opening, which is defined at a bottom of the cylindrical shell of the rotary handle, to a terminal end at a higher position. The cylindrical shell of the rotary handle is provided with an engagement pin close to the terminal end of the track. When the rotary handle is rotated to its ultimate position, the engagement pin can engage with the right-angled part of the short post, so that the rotary handle can be fixed at the ultimate position.

[0011] Other objects, advantages, and novel features of the present invention, which is defined by the appended claims, will become more apparent from the following detailed description when taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012]

FIG 1 shows a 3-dimensional view of an emergency repair kit for punctured tires according to one embodiment of the present invention.

FIG 2 shows an exploded view of the emergency repair kit.

FIG 3 shows a sectional view of the emergency repair kit.

FIG 4 shows a 3-dimensional view of a basket being connected to a sealant dispenser of the emergency repair kit.

FIG 5 shows an exploded view of the sealant dispenser, the basket, and a sealant hose of the emergency repair kit.

FIG 6 shows a plan view of the basket being connected to the sealant dispenser of the emergency repair kit.

FIG 7 shows a 3-dimensional view of a second embodiment of the basket being connected to the basket of the emergency repair kit.

FIG 8 shows an exploded view of the sealant dispenser and the second embodiment of the basket of the emergency repair kit.

FIG 9 shows another exploded view of the sealant dispenser and the second embodiment of the basket of the emergency repair kit.

FIG 10 shows a sectional view of the sealant dispenser of the emergency repair kit.

FIG 11 shows a plan view of an assembled structure consisting of a cap, a control valve, and a rotary handle used in the sealant dispenser.

FIG 12 shows a sectional view of the assembled structure taken along line A-A in FIG 11.

FIG 13 shows a schematic view of the sealant dispenser, wherein the rotary handle is being rotated for operating the sealant dispenser.

FIG 14 shows a schematic view of the sealant dispenser, which is at its initial state.

FIG 15 shows a schematic view of the sealant dispenser, which demonstrates the air flow and the sealant flow after the rotary handle has been rotated to its ultimate position.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0013] Referring to FIGS. 1, 2 and 3, an emergency repair kit for punctured tires according to one embodiment of the present invention is shown, which generally comprises a box 9, a basket 8, and a sealant dispenser 1. The box 9, preferably with a large bottom surface, is provided with a rocker-type switch 91 and defines a slit 92 at its top surface. A compressor unit (not shown) is installed in the box 9. Furthermore, the box 9 defines an opening 93 at one side thereof, which extends into the interior of the box 9 to define a storage space 94 for storing an air hose 11 that can be connected between the sealant dispenser 1 and the compressor unit within the box 9. When an inflating and repairing operation is required, the air hose 11 can be

taken out of the opening 93 to be connected to an air input connection tube 32 of the sealant dispenser 1. A sealant hose 12 is connected to a sealant output connection tube 34 of the sealant dispenser 1 at one end thereof, wherein the other end of the sealant hose 12 is provided with a nozzle adapter 121 which can be connected with an air nozzle of a punctured tire. When the switch 91 is turned on, compressed air produced in the compressor unit within the box 9 can flow into the interior of the sealant dispenser 1, and then flow into the punctured tire via the sealant hose 12 to inflate and repair the tire.

[0014] The basket 8, which can be used to detachably couple the sealant dispenser 1 to the box 9, defines a receiving space 80 for storing the sealant hose 12 (see FIGS. 4 and 6). The basket 8 has a curved strap 81 extending upwardly from one side thereof, which conforms to the sealant dispenser 1 and terminates at a tab 82 defining a non-circular hole 83. The basket 8 has an upper horizontal strap 84 at an opposite side with an open bottom 840. Also, the basket 8 has an engagement strap 85 extending downwardly from the upper horizontal strap 84 and capable of being inserted through the slit 92 of the box 9, as shown in FIGS. 2 and 3, so that the basket 8 can be connected to the box 9 at one side thereof.

[0015] Referring to FIGS. 4 and 5, the sealant dispenser 1 generally includes a bottle 2 and a cap 3, wherein the cap 3 is provided with a protrusion 301. The basket 8 can be connected to the sealant dispenser 1 by engaging the protrusion 301 with the hole 83 of the basket 8, so that the basket 8 is connected to the sealant dispenser 1 at the other side thereof. With the basket 8 connected between the box 9 and the sealant dispenser 1, the sealant dispenser 1 can be stand on a surface more firmly to prevent displacement or overturn due to vibrations.

[0016] Referring to FIGS. 9 and 10, the bottle 2 is defined with an inner space 23 therein. The bottle 2 has a neck portion, which defines a top opening 21, and a flat bottom 25 opposite to the top opening 21. The neck portion of the bottle 1 is provided with external threads 22. A recessed space 24 is defined above the flat bottom 25. A chemical sealant 26, which can repair punctured tires, is stored in the inner space 23 of the bottle 2.

[0017] The cap 3 is threadedly mounted to the neck portion of the bottle 2 which defines the top opening 21. The cap 3 defines at its inner surface an annular groove 30 to be fitted with a gasket 6, which allows the cap 3 to seal the top opening 21 of the bottle 2 more properly. An upper pipe 31, which is integrally formed with the cap 3, extends upwardly from the top of the cap 3. A lower pipe 36, which is integrally formed with the cap 3, extends downwardly from the inner surface of the cap 3. The upper pipe 31 defines an inner passage 313 while the lower pipe 36 defines an inner passage 361. The inner passage 313 of the upper pipe 31 communicates with the inner passage 361 of the lower pipe 36. A horizontal short post 311 is provided at the upper pipe 31. The short post 311 has a non-circular cross-section, two sides of which are formed into a right-angled part 312 (see FIG 11). Furthermore, the upper pipe 31 is provided with an air input connection tube 32 and a sealant output connection tube 34. The air input connection tube 32 defines an air passage 33. The inner surface of the cap 3 is provided with a short tube 38, which communicates with an intermediate channel 39 defined in the cap 3. The air passage 33 can communicate with the inner space 23 of the bottle 2 via the

intermediate channel 39 that communicates with the short tube 38. The sealant output connection tube 34 defines a sealant passage 35, which communicates with the inner passage 313 of the upper tube 31. The inner passage 313 of the upper pipe 31 has a diameter less than the inner passage 361 of the lower pipe 36 such that an inner conical surface 37 is formed between the inner passage 313 of the upper pipe 31 and the inner passage 361 of the lower pipe 36.

[0018] A non-circular elongated rod 7 has an enlarged top end 72, which defines an annular groove 73 to be fitted with an O-ring 74. Furthermore, the elongated rod 7 is provided below the top end 72 with a projection 71 defining multiple concavities 710. The elongated rod 7 can be fitted in the inner passages 313, 361 through the lower end of the lower pipe 36, wherein the inner conical surface 37 can facilitate the top end 72 of the elongated rod 7 with the O-ring 74 to be inserted into the inner passage 313 of the upper pipe 31. Furthermore, due to the projection 71 of the elongated rod 7 being blocked by the conical surface 37, the elongated rod 7 can be prevented from sliding out of the inner passage 313 of the upper pipe 31.

[0019] The control valve 5 has a tube and a stem 55. The tube of the control valve 5 defines therein a central bore 54 which opens out at a top opening 50 thereof. Furthermore, the tube of the control valve 5 is provided at its bottom with multiple strips 51 and defines multiple gaps 52 between the strips 51. An inner stepped plug 53 is attached to the lower ends of the strips 51 and is surrounded by the multiple gaps 52. The stem 55 extends upwardly from the end of the tube which defines the top opening 50. A distal end of the stem 55 is formed into an upper plug 56 which has a central pin 58 and defines an annular cavity 57 around the central pin 58. The lower pipe 36 can be inserted into the central bore 54 of the tube of the control valve 5 via the top opening 50 such that a lower end of the lower pipe 36 is snugly fitted over the inner stepped plug 53 and thus closes the inner passage 361 of the lower pipe 36, and a lower end of the elongated rod 7 is in contact with the stepped plug 53. The central pin 58 of the upper plug 56 can be inserted into the short tube 38 to block the intermediate channel 39 that communicates with the air passage 33 of the air input connection tube 32. At the same time, the annular cavity 57 can be snugly fitted around the short tube 38.

[0020] A cap-shaped rotary handle 4 can be mounted over the upper pipe 31 to touch the elongated rod 7. The rotary handle 4 has a cylindrical shell with a closed top, two opposite blades 41 provided at the cylindrical shell, and a central post 42 extending downwardly from an inner surface of the closed top and capable of touching the top end 72 of the elongated rod 7. The rotary handle 4 defines a track 43 along the cylindrical shell thereof, wherein the track 43 extends from an entrance opening 431, which is defined at a bottom of the cylindrical shell of the rotary handle 4, to a terminal end 432 at a higher position. Furthermore, the cylindrical shell of the rotary handle 4 is provided, close to the terminal end 432 of the track 43, with an engagement pin 44 for engaging with the right-angled part 312 of the short post 311. When the sealant dispenser 1 is not in use, the rotary handle 4 can be threadably fitted to the nozzle adapter 121 of the sealant hose 12 to prevent it from falling off the upper pipe 31 when moving the sealant dispenser 1.

[0021] When the sealant dispenser 1 is not in use, the sealant hose 12 can be stored in the basket 8, and the nozzle adapter 121 of the sealant hose 12 can be threadedly sealed by the rotary handle 4 so that, in case the switch 91 is unintentionally turned on, the chemical sealant 26 can be prevented from flowing out of the nozzle adapter 121 of the sealant hose 12.

[0022] FIG 14 shows an initial state of the sealant dispenser 1, wherein the intermediate channel 39 is blocked by the upper plug 56 of the control valve 5, the lower pipe 36 is blocked by the inner stepped plug 53 of the control valve 5, and the elongated rod 7 is in contact with the inner stepped plug 53. As shown, the intermediate channel 39 does not communicate with the inner space 23 of the bottle 2, and the inner passages 313, 361 of the upper and lower pipes 31, 36 do not communicate with the inner space 23 of the bottle 2. In operation, the rotary handle 4 can be threadedly removed from the hose adapter 121 of the sealant hose 12 to mount over the upper pipe 13, wherein the short post 311 can be aligned with the entrance opening 431 of the track 43 to have the rotary handle 4 mounted over the upper pipe 31 of the cap 3. Next, the rotary handle 4 can be rotated (see FIG 13), to allow the short post 311 to move relative to the rotary handle 4, along the track 43, to reach the terminal end 432, at which the engagement pin 44 can engage with the right-angled part 312 of the short post 311 provided at the upper pipe 31, so that the short post 311 can be retained at the terminal end 432 of the track 43 (see FIG 15) and thus the rotary handle 4 can be fixed at the rotated position. Since the short post 311 is stationary, during the relative movement, the rotary handle 4 is moved downward. Furthermore, due to the central post 42 of the rotary handle 4 being located to touch the top end 72 of the elongated rod 7, the downward movement of the rotary handle 4 will cause the elongated rod 7 to move downward. Thus, the inner stepped plug 53, which is in contact with the lower end of the elongated rod 7, can be forced by the central post 42 of the rotary handle 4 to move the control valve 5 downward, so that the upper plug 56 of the control valve 5 can be removed from the short tube 38 of the cap 3, and the inner stepped plug 53 can be removed from the lower pipe 36. Consequently, the intermediate channel 39 and the inner passages 313, 361 of the upper and lower pipes 31, 36 can communicate with the inner space 23 of the bottle 2, so that the compressed air can flow into the inner space 23 of the bottle 2 via the air passage 33 of the air input connection tube 32 and the intermediate channel 39 to act upon the surface of the chemical sealant 26, so that the chemical sealant 26 can be forced by the compressed air to flow into the inner passage 361 of the lower pipe 36 via the gaps 52 of the control valve 5 (see FIG 15), and then can flow through the concavities 710 of the projection 71 of the elongated rod 7 to enter the inner passage 313 of the upper pipe 31 (see also FIG 12). Finally, the chemical sealant 26 can flow out of the sealant passage 35 to enter a punctured tire by way of a hose connected between the sealant output connection tube 34 and the air nozzle of the punctured tire. In particular, after the sealant dispenser has been used for a period of time, although the amount of the chemical sealant 26 contained in the bottle 2 is reduced, the recessed space 24 above the flat bottom 25 of the bottle 2 can facilitate collecting the remaining sealant in the bottom of the bottle 2, so that the remaining sealant can be effectively used by the control valve 5 without leftover.

[0023] FIGS. 7 and 8 show a second embodiment of the basket 8 of the present invention, wherein the tab 82 provided in the previous embodiment of the basket 8 (see FIG 5) is

replaced by a horizontal loop 86. Specifically, the curved strap 81 of the basket 8 is formed with the horizontal loop 86 which defines a plurality of indentations 861 along its inner edge. On the other hand, the bottle 2 is provided at a bottom of the neck portion with a plurality of protrusions 221 corresponding to the indentations 861. The basket 8 is assembled to the bottle 2 before installation of the elongated rod 7 and the control valve 5 (see also FIG 9). The loop 86 can be fitted around the neck portion of the bottle 2, wherein the protrusions 221 of the bottle 2 can be respectively engaged with the indentations 861 of the loop 86, so that the second embodiment of the basket 8 is connected to the bottle 8.

[0024] In conclusion, the emergency repair kit of the present invention includes a box 9, a basket 8 and a sealant dispenser 1. An air input connection tube 32 of the sealant dispenser 1 can be connected with a compressor unit within the box 9 via an air hose 11 for transferring compressed air. The sealant dispenser 1 is detachably coupled to the box 9 by the basket 8, so that the sealant dispenser 1 can stand more firmly on a surface. In operation, when the compressor unit is started, compressed air produced in the compressor unit can flow into the sealant dispenser 1 via the air hose 11 to force the chemical sealant 26 contained in the sealant dispenser 1 to flow out of the sealant output connection tube 34, and finally flow into a punctured tire via the sealant hose 12 for inflating and repairing the tire.

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

- WO2013157469A1 [0004]

Patentkrav

1. Reparationsudstyr til nødhjælp i forbindelse med punkterede luftringe, og som omfatter en kasse (9), der rummer en kompressorenhed og en tætningsmid-
5 deldispenser (1), som er forsynet med en lufttilførsels-forbindelsesrør (32), der fastlægger en luftkanal (33) til modtagelse af komprimeret luft, som er tilført fra kompressorenheden, og hvor et forbindelsesrør (34) til udlevering af tætningsmiddel fastlægger en tætningsmiddel-kanal (35) til levering af det kemiske tætningsmiddel (26), som er indeholdt i en tætningsmiddeldispenser (1) til brug ved
10 en punkteret slange, og hvor dispenseren (1) er aftageligt koblet til kassen (9) ved hjælp af en kurv (8), og hvor kassen er forsynet med en kontakt (91), og hvor en tætningsmiddelslange (12) ved hjælp af et dysetilpasningsorgan (121) er forbundet med forbindelsesrøret (34) til udlevering af tætningsmiddel, **kendetegnet ved,**
15 at kassen ved sin øvre overflade har en slids (92) og ved sin ene side har en åbning (93), som strækker sig ind i kassens (9) indre, hvilken kasse tjener til oplagring af en luftslange (11), som kan forbindes mellem en lufttilførsels-forbindelsesslang (32) og kompressorenheden inden i kassen (9), når en oppustnings- og reparationsprocedure kræves, og hvor kurven (8) fastlægger et modtagelsesrum
20 (80) til lagring af tætningsmiddelslangen (12), hvilken kurv (8) har en krum bøjle (81), som strækker sig opad fra den ene side, en øvre vandret bøjle (84) ved en modsat side med en åben "bund" (840) og en anlægsbøjle (85), som strækker sig nedad fra den øvre vandrette bøjle (84), og som er i stand til at kunne skydes ind gennem en slids (92) i kassen (9).
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2. Reparationsudstyr til nødhjælp ifølge krav 1, hvor den krumme bøjle (81) ender ved en flig (82), som har et ikke-cirkulært hul (83).
3. Reparationsudstyr til nødhjælp ifølge krav 1, hvor tætningsmiddeldispenseren (1) omfatter en flaske (2), en hætte (3), en styreventil (5) og et drejeligt håndtag (4), hvor flasken (2) er fyldt med et kemisk tætningsmiddel (26) og fastlægger en øvre åbning (21), hvor hætten (3) er monteret oven over topåbningen (21) i flasken (2), og hvor styreventilen (5) er monteret på flasken (2) med henblik på
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at kunne kontrollere en luftkanal (33) og tætningsmiddelkanalen (35), og hvor luftkanalen (33) og tætningsmiddelkanalen (35) er lukket ved hjælp af styreventilen (5), når tætningsmiddeldispenseren (1) ikke er i brug, og hvor det drejelige håndtag (4) er aftageligt monteret på flasken (2) med henblik på at kunne aktivere

5 styreventilen (5), så at luftkanalen (33) og tætningsmiddelkanalen (35) åbnes, således at komprimeret luft kan strømme ind i flasken (2), og så at det kemiske tætningsmiddel (26) kan afleveres til den punkterede slange via tætningsmiddelkanalen (35), og hvor, når tætningsmiddeldispenseren (1) ikke er i brug, tætningsmiddelslangen (12) kan oplagres i kurven (8), og et slangetilpasningsorgan

10 (121) hørende til tætningsmiddelslangen (12) så kan blive gevindmæssigt forseglet ved hjælp af det drejelige håndtag (4), og dette således at i tilfælde af, at kontaktorganet (91) utilsigtet tilsluttes, vil det kemiske tætningsmiddel (26) blive hindret i at flyde ud af slangetilpasningsorganet (121) hørende til tætningsmiddelslangen (12).

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4. Reparationsudstyr til nødhjælp ifølge krav 3, hvor flasken (2) har en flad bund (25) og fastlægger et indre rum (23), som åbner sig opad og ud ved en øvre åbning (21), og hvor det kemiske tætningsmiddel (26) er indeholdt i et indre rum (23) i flasken (2), og hvor hættens (3) er udformet ud i ét med et øvre rør (31) og

20 et neden under anbragt nedre rør (36), og hvor det øvre rør (31) og det nedre rør (36) respektivt fastlægger en indre kanal (313, 361), idet de to rør kommunikerer med hinanden, og hvor det øvre rør (31) er forsynet med lufttilførrings-forbindelsesrøret (32), som fastlægger kanalen (33) og er forsynet med et tætningsmiddeludleverings-forbindelsesrøret (34), som fastlægger en tætningsmiddelkanal

25 (35), hvilken hætte (3) ved hjælp af gevind er monteret på flaskens (2) halsdel, der fastlægger den øvre åbning (21), og hvor en ikke-cirkulær, aflang stang (7) er monteret i de indre kanaler (313, 361) på det øvre og nedre rør (31, 36), og hvor en styreventil (5) omfatter et rør, som i sig fastlægger en central boring (54), som ved en øvre åbning (50) er åben, og hvor røret i styreventilen (5) ved sin

30 bund har en indre, med trin forsynet pløk (53), modsat den øvre åbning (50), som fastlægger mange gab (52) ved sin bund omkring den indre, med trin forsynede pløk (53), og hvor det nedre rør (36) er indskudt i den centrale boring (54) i røret på styreventilen (5) og dette via den øvre åbning på styreventilen (5), således at

en nedre ende af det nedre rør (36) er pænt monteret uden på det med indre trin forsynede rør (53) og derved lukker gabene (52) i styreventilen (5), og den nedre ende af den aflange stang (7) er i berøring ved den med indre trin forsynede pløk (53) i styreventilen (5), og hvor et drejeligt håndtag (4) er aftageligt monteret uden
5 på det øvre rør (31) i hættten (3), så at den aflange stang berøres, hvorved en drejning af det drejelige håndtag (4) tillader den aflange stang at kunne bevæge styreventilen (5) nedad, således at gabene (52) i styreventilen (5) kan åbnes for at tillade det kemiske tætningsmiddel (26) at strømme ind i den indre kanal (361) i det nedre rør (36) og den indre kanal (313) i det øvre rør (31) og endelig trænge
10 ind i den punkterede slange gennem tætningsmiddelkanalen (35) og tætningsmiddelslangen (12) for at oppuste og reparere den punkterede slange.

5. Reparationsudstyr til nødhjælp ifølge krav 4, hvor halsdelen på flasken (2) har ydre gevindgænger (22), og der findes et udsparet rum (24) oven over flaskens (2) plane bund (25), og hvor hættten (3) ved sin indre flade har et kort rør (38) og ved sin indre overflade fastlægger en ringformet rille (30), som kan forsynes med en pakning (6), og hvor hættten (3) i sig har en mellemkanal (39), som tillader luftkanalen (33) at kommunikere med et kort rør (38), og hvor det øvre rør (31) har en kort lodret del (311), og hvor to ved siden af hinanden anbragte sider
20 i et tværsnit i den korte lodrette del (311) er formet til dannelse af en retvinklet del (312), og hvor luftkanalen (33) i et lufttilførsels-forbindelsesrør (32) kommunikerer med det indre rum i flasken (2) via en mellemkanal (39), som kommunikerer med det korte rør (38), og hvor tætningsmiddelkanalen (35) kommunikerer med den indre kanal (313) i det øvre rør (31), og hvor den indre kanal (313) i det øvre rør
25 (31) har en diameter, som er mindre end, hvad der gælder for den indre kanal (361) i det nedre rør (36), så at der dannes en indre konisk overflade (37) her i mellem.

6. Reparationsudstyr til nødhjælp ifølge krav 5, hvor den aflange stang (7) har
30 en udvidet, øvre ende (72), som fastlægger en ringformet rille (73), der kan forsynes med en O-ring (74), og hvor den aflange stang (7) under den udvidede, øvre ende (72) er forsynet med et fremspring (71), som fastlægger mange hulrum (710), og hvor fremspringet (71) er blokeret af en indre, konisk flade (37) for at

hindre, at den aflange stang (7) glider ud af det øvre rør (31), og hvor hulrummene (710) i fremspringet (71) tillader, at kemisk tætningsmiddel kan flyde gennem fremspringet (71) på nævnte stang (7).

- 5 7. Reparationsudstyr til nødhjælp ifølge krav 5, hvor bunden af røret i styreventilen (5) er forsynet med mange strimler (51), og hvor mange gab (52) er fastlagt mellem strimlerne (51), hvor den med indvendigt trin forsynede pløk (53) er fastgjort til de nedre ender af strimlerne (51), og hvor styreventilen (5) yderligere har en spindel (55), som strækker sig op fra enden af et rør, der definerer en øvre
- 10 åbning (50), og hvor den distale ende af spindlen (55) er således udformet, at den danner en øvre pløk (56), som har en central tap (58) og fastlægger et ringformet hulrum (57) omkring den centrale tap (58), hvilken centrale tap (58) kan indskydes i det korte rør (38), så at der sker en blokering af mellemkanalen (39), som kommunikerer med luftkanalen (33) i lufttilførsels-forbindelsesrøret (32), og
- 15 hvor det ringformede hulrum (57) kan være placeret snævert omkring det korte rør (38).

8. Reparationsudstyr til nødhjælp ifølge krav 4, hvor det drejelige håndtag (4) har en cylindrisk skal med en lukket top, to modsat anbragte blade (41) ved den
- 20 cylindriske skal og en central stander (42), som strækker sig nedad fra en indre flade på den lukkede top, og som kan berøre den aflange stang (7), og hvor det drejelige håndtag (4) fastlægger et spor (43) langs en tilhørende cylindrisk skal, hvilket spor strækker sig fra en indgangsåbning (431), som er fastlagt ved bunden af den cylindriske skal i det drejelige håndtag (4) og forløber hen til en ende (432),
- 25 som befinder sig i en højere stilling, og hvor den cylindriske skal på det drejelige håndtag (4) er forsynet med en anlægstap (44) nær ved enden af sporet (43).

9. Reparationsudstyr til nødhjælp ifølge krav 5, hvor hættten (3) er forsynet med et fremspring (301), som kan ligge an i et hul (83) i kurven (8), så at kurven (8)
- 30 bliver forbundet med tætningsmiddel-dispenseren (1).

10. Reparationsudstyr til nødhjælp ifølge krav 4, hvor kurvens (8) krumme bøjle (81) har en vandret løkke (86), som langs sin indre kant har et antal indhak (861),

og hvor flasken ved bunden af halsdelen har et antal fremspring (221), som svarer til indhakkene (861) i den vandrette løkke (86), og hvor løkken (86) er monteret rundt om flaskens (2) halsdel, og hvor hvert enkelt af flaskens (2) fremspring (221) er bragt til anlæg i et indhak (861) i løkken (86), så at kurven (8) bliver

5 forbundet med tætningsmiddel-dispenseren (1).

DRAWINGS

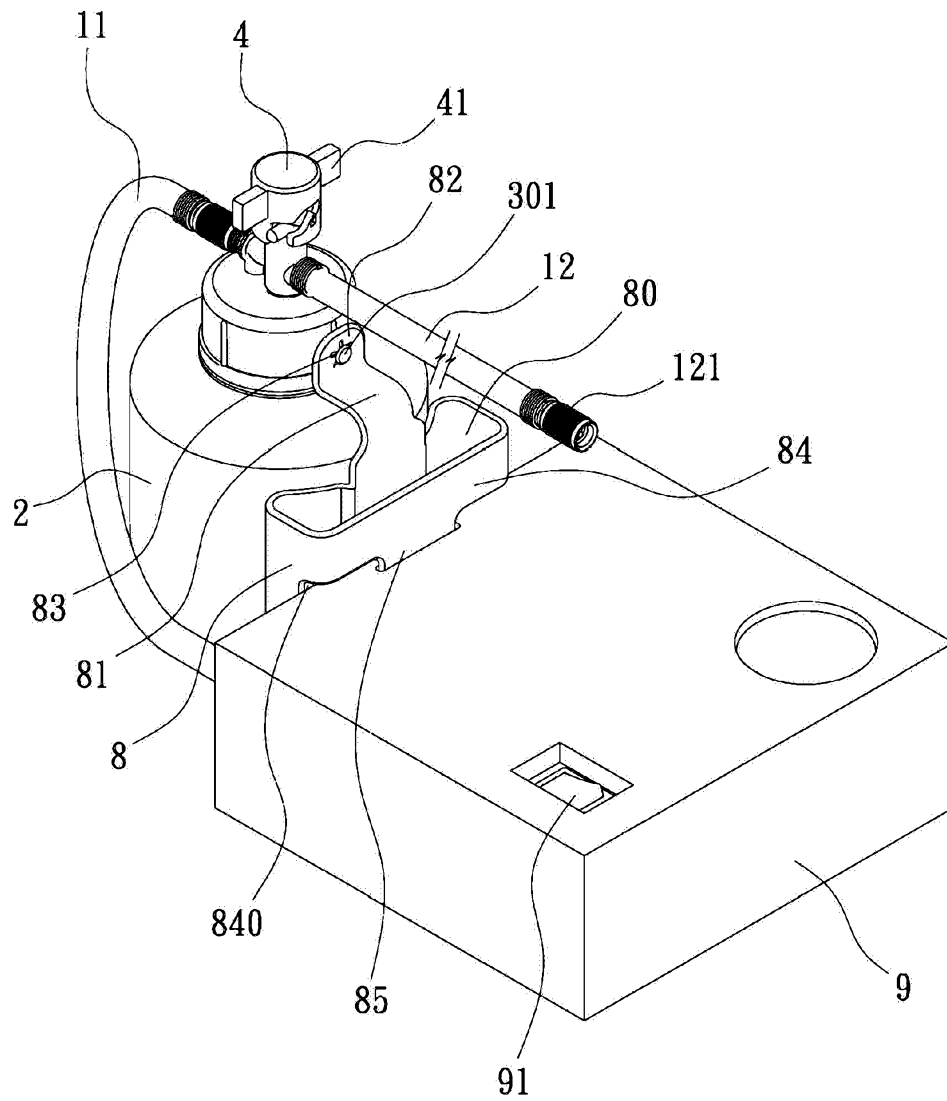


FIG. 1

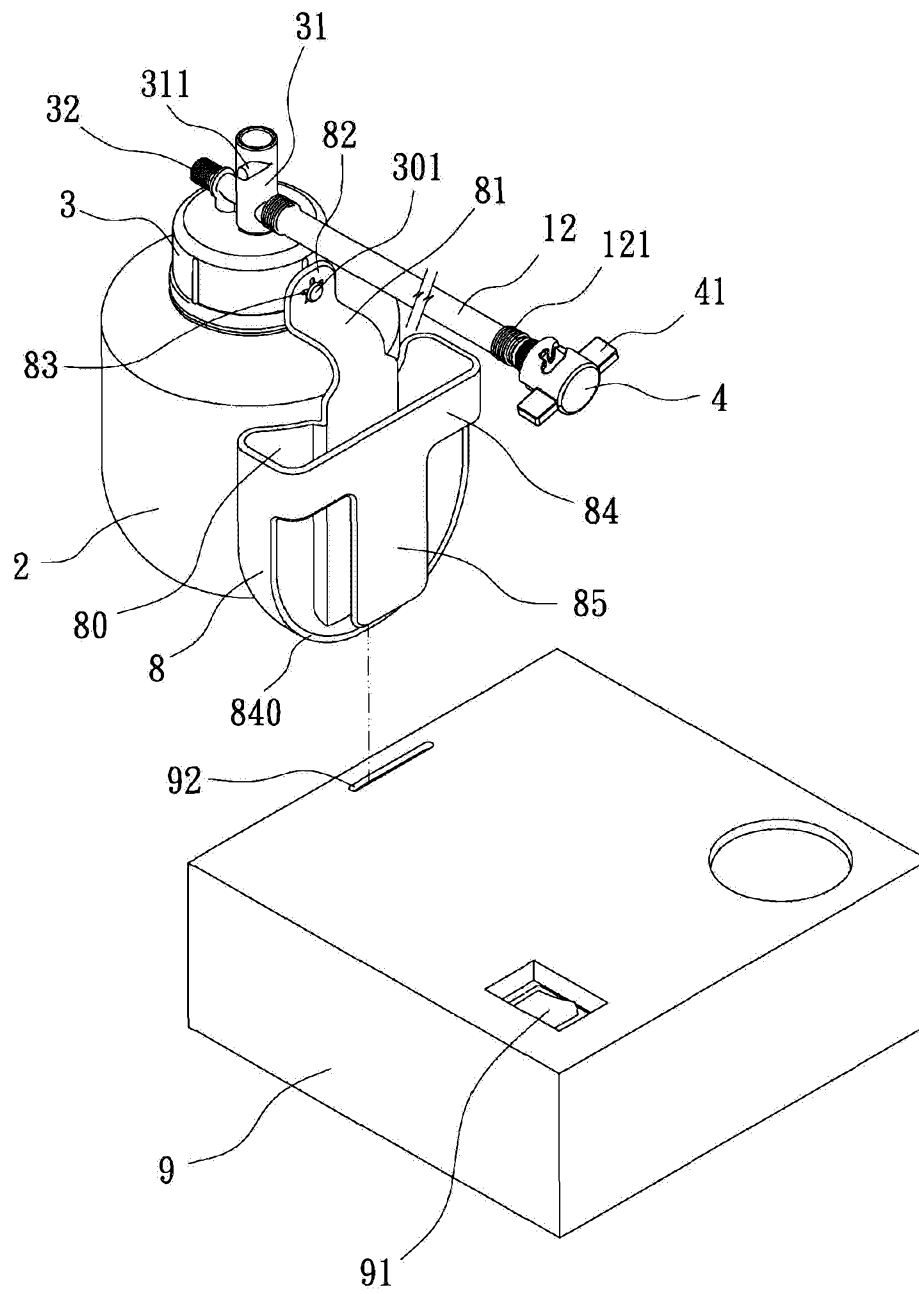


FIG. 2

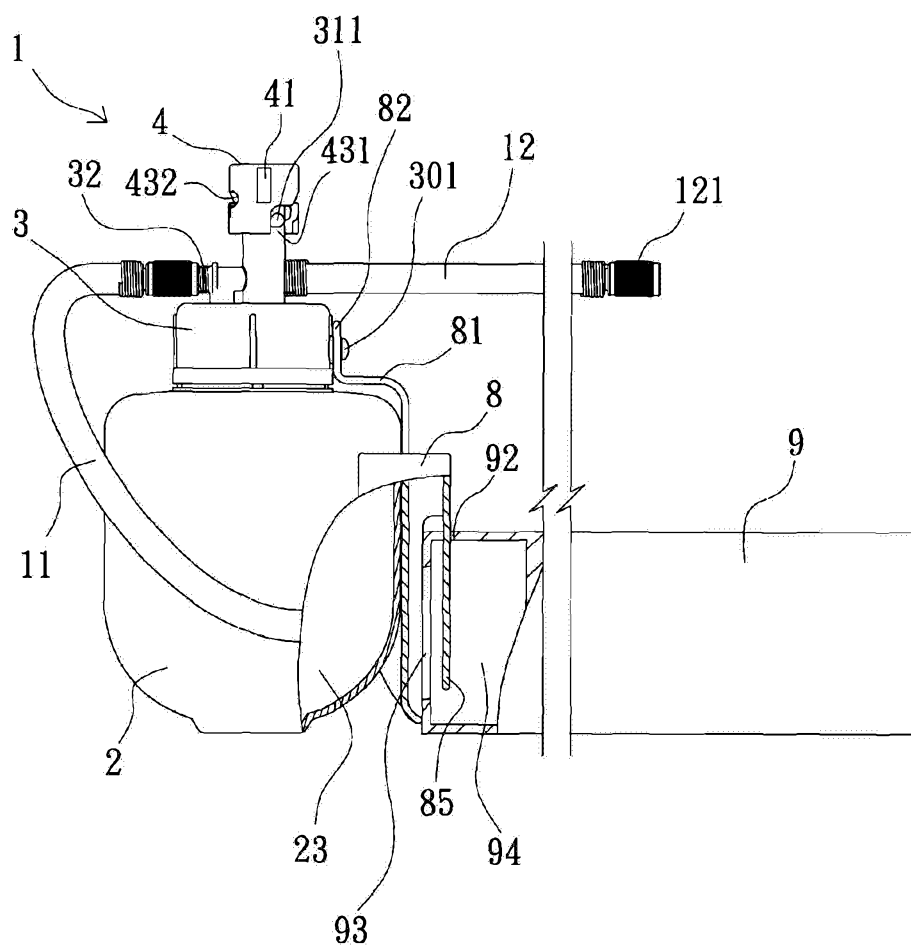


FIG. 3

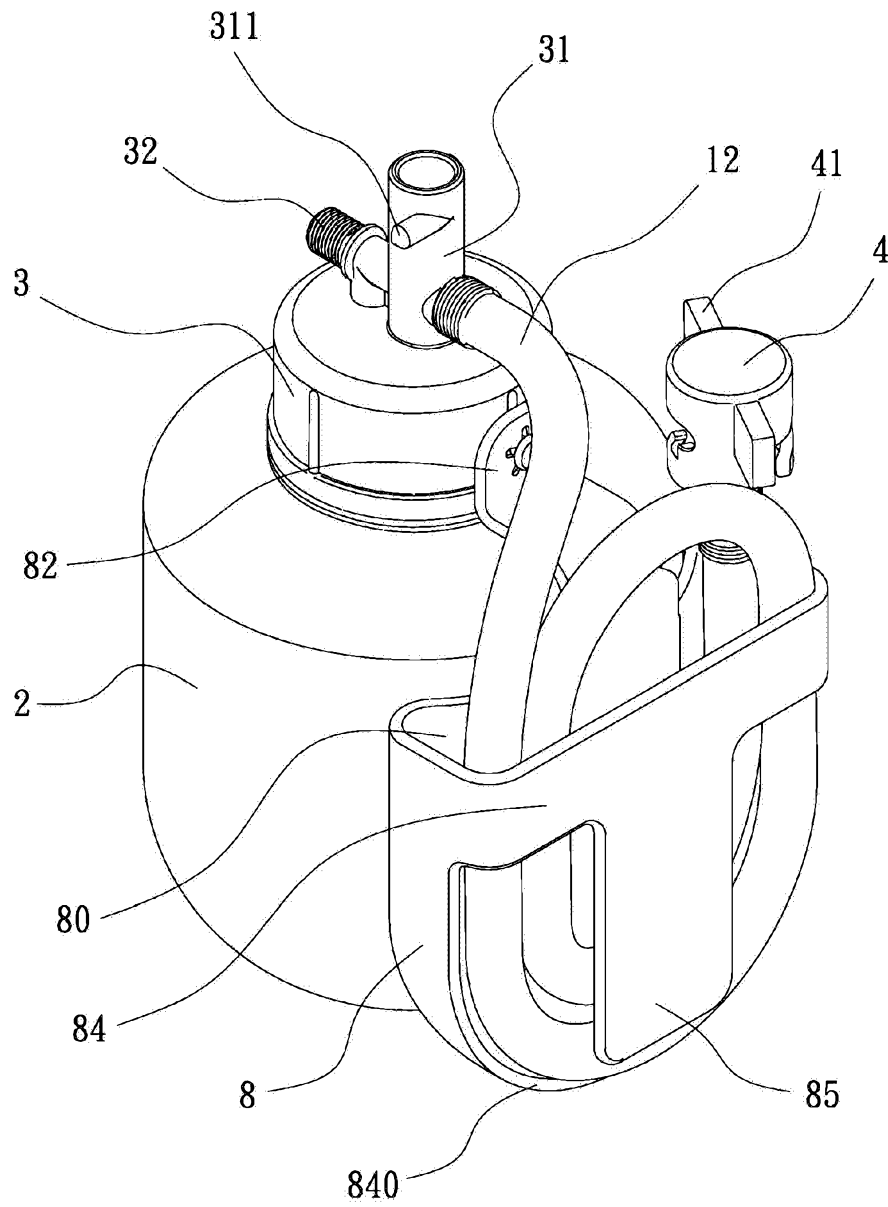


FIG. 4

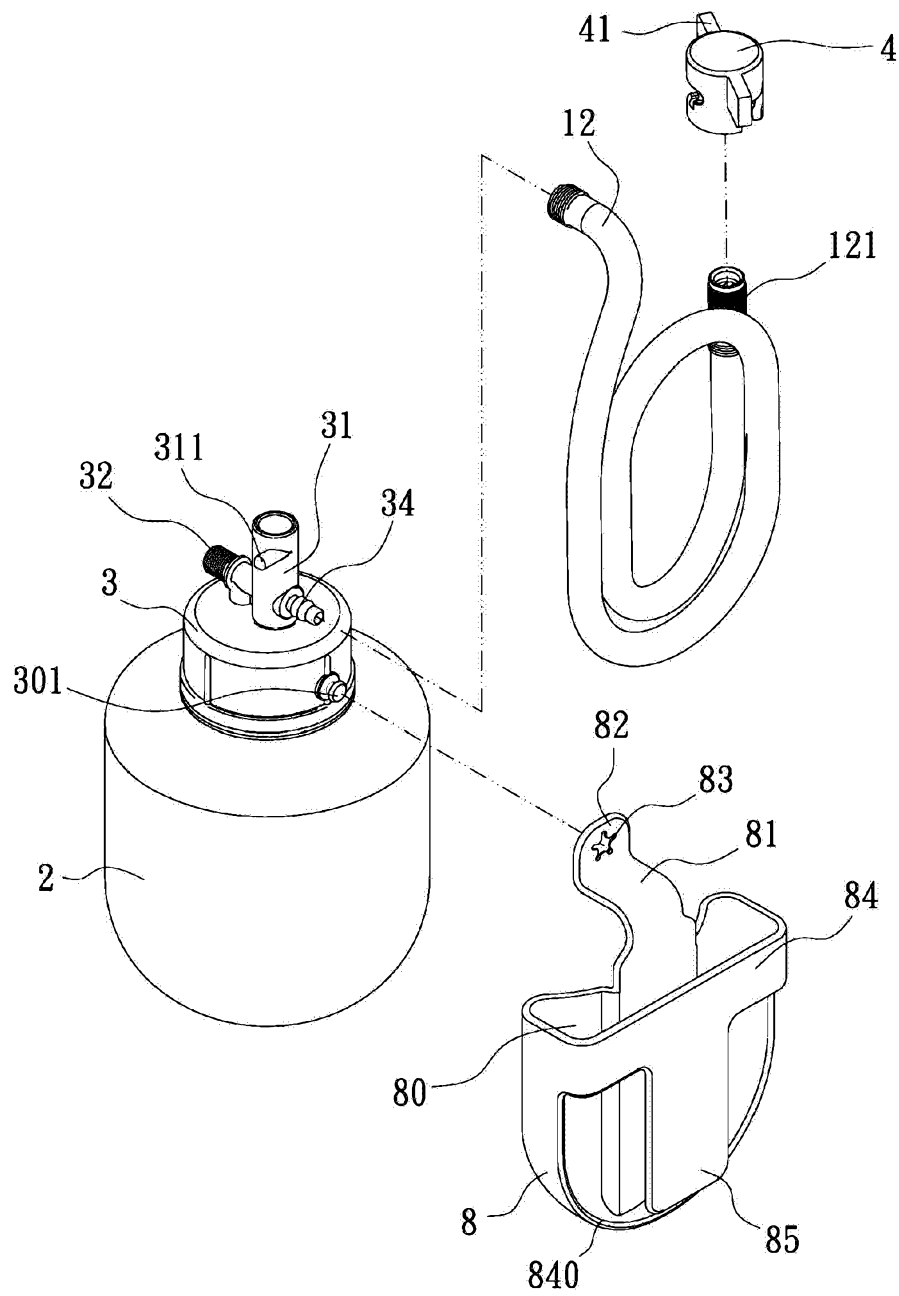


FIG. 5

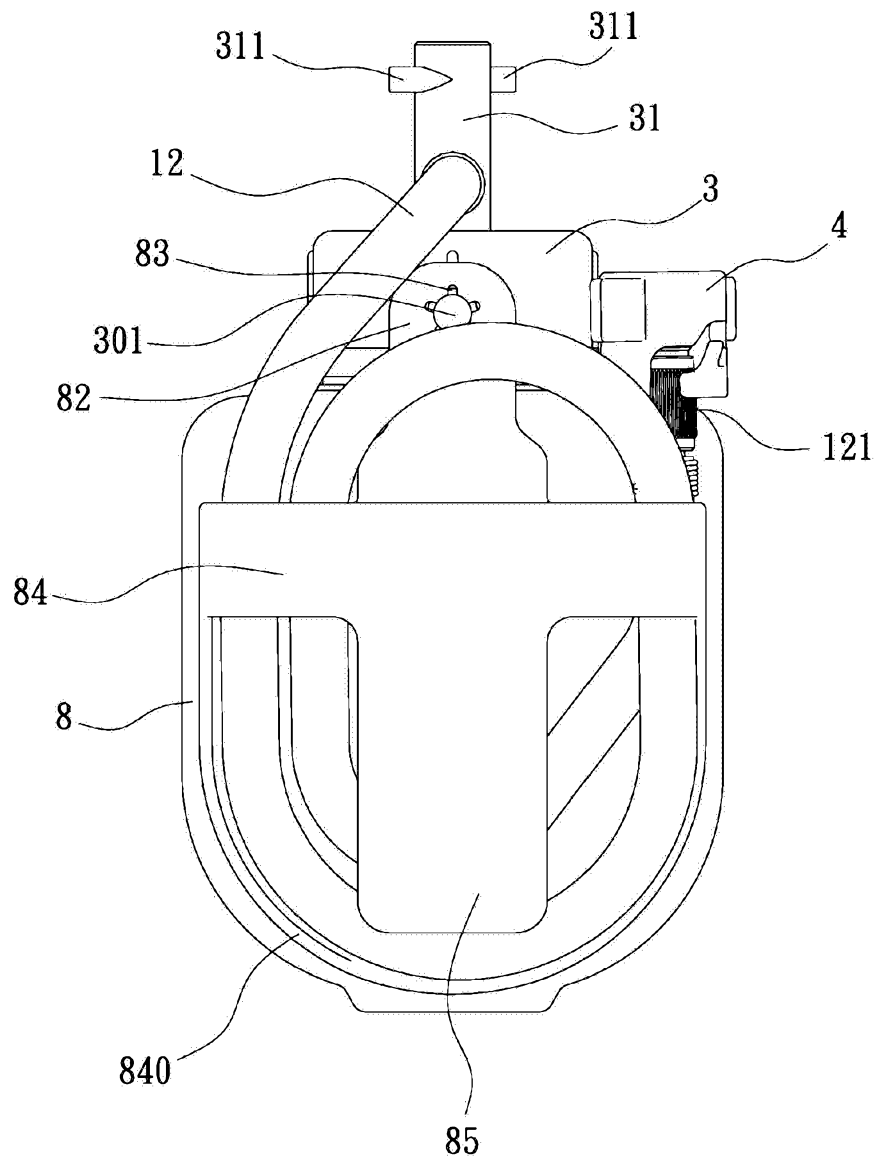


FIG. 6

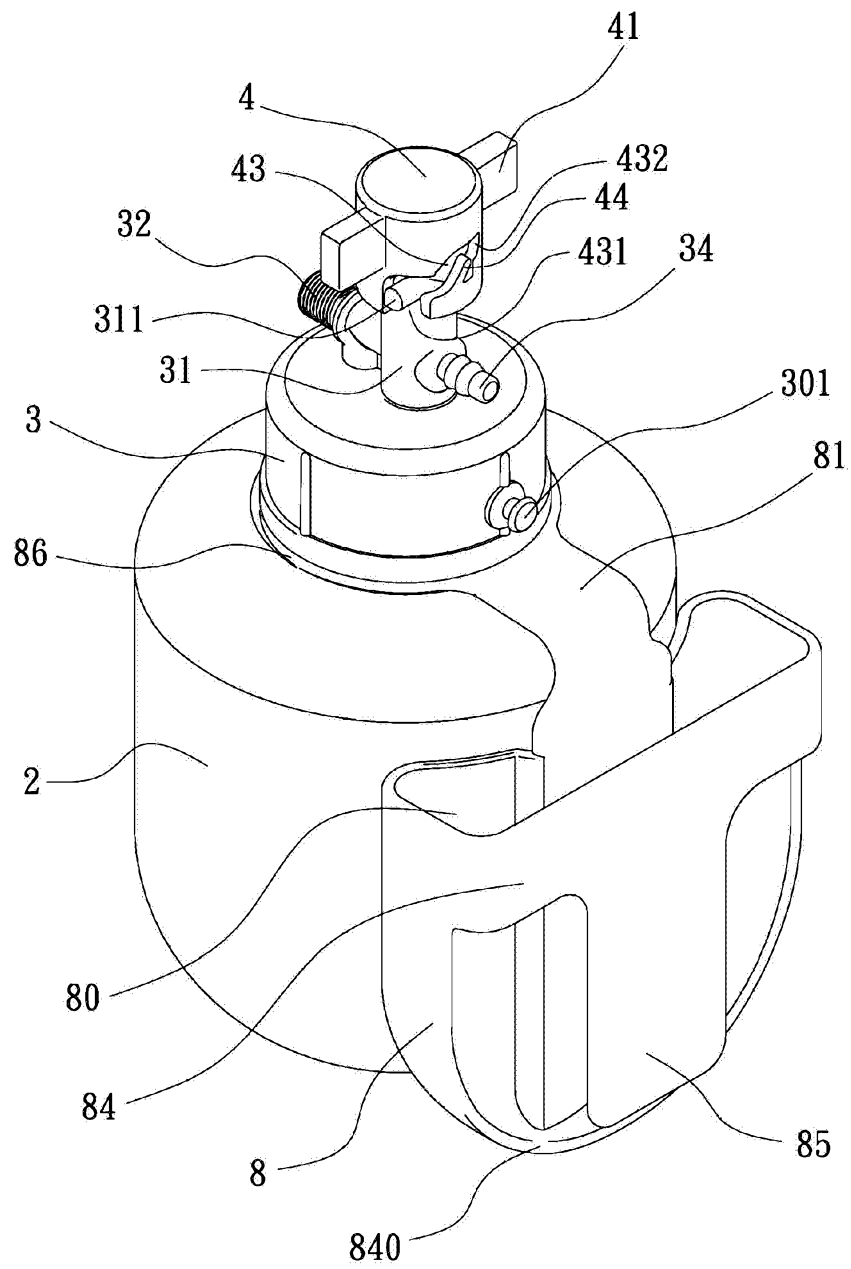


FIG. 7

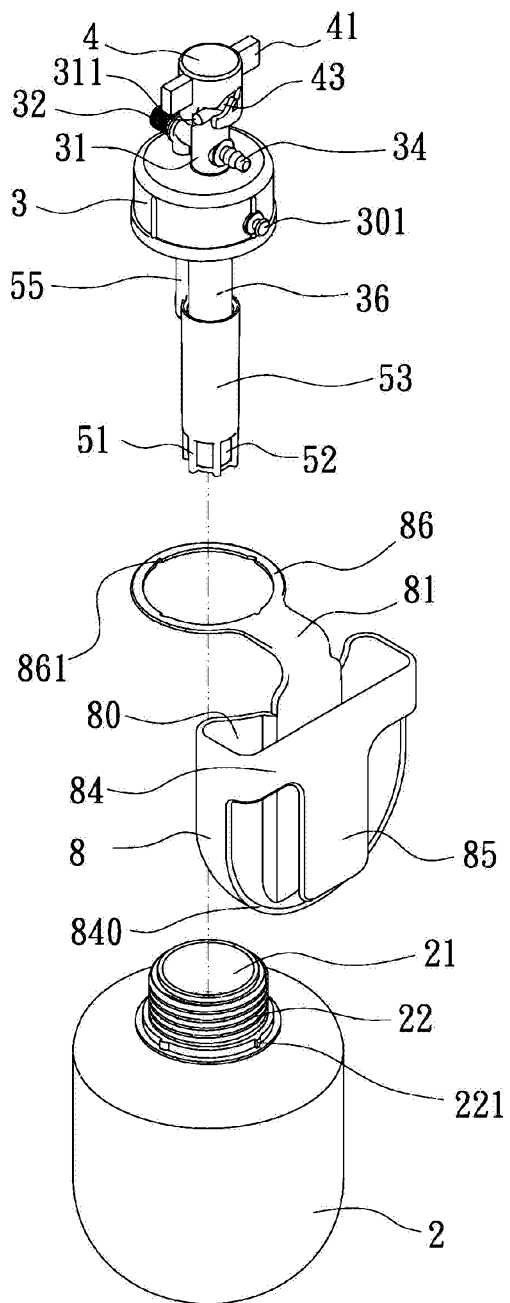


FIG. 8

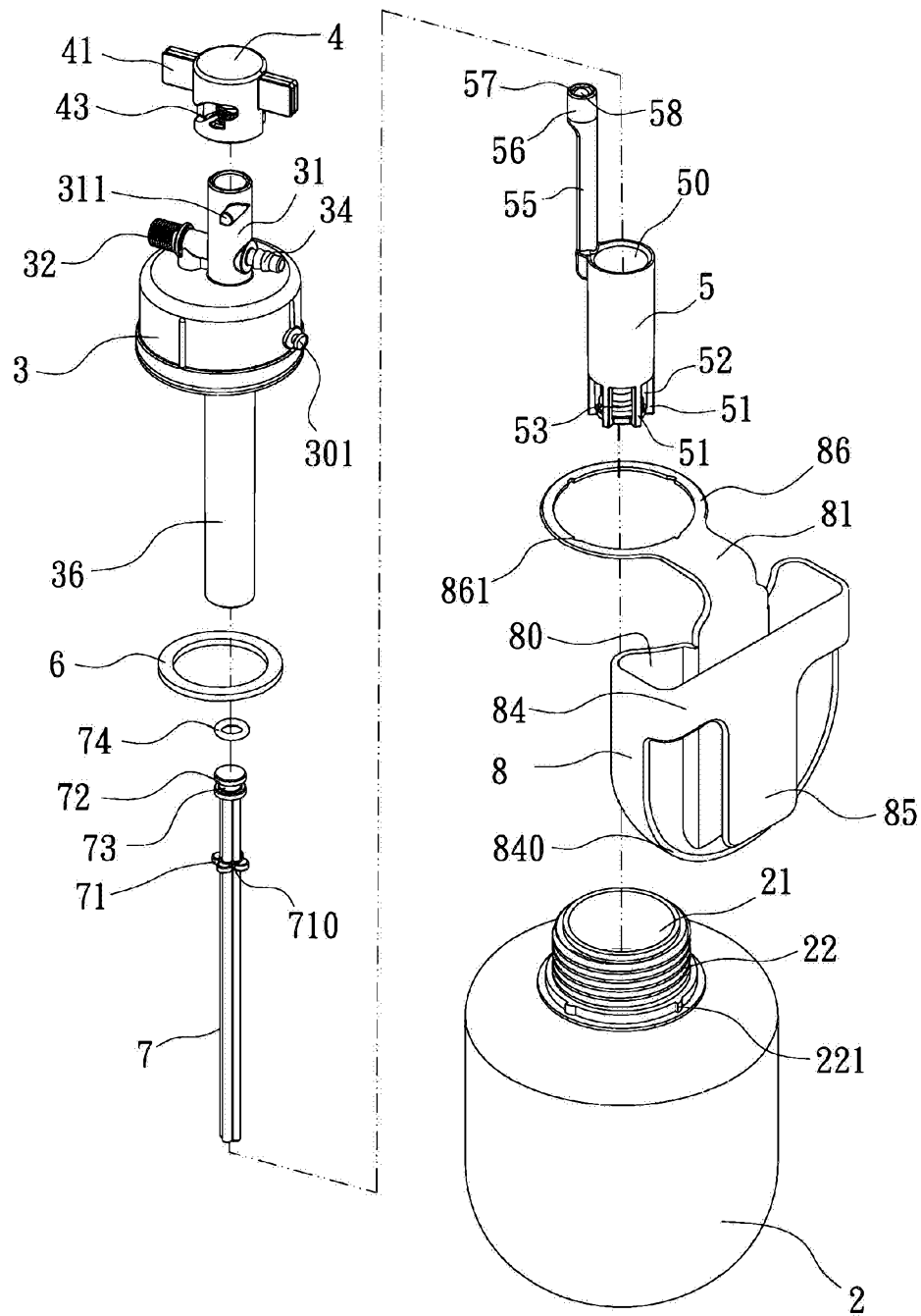


FIG. 9

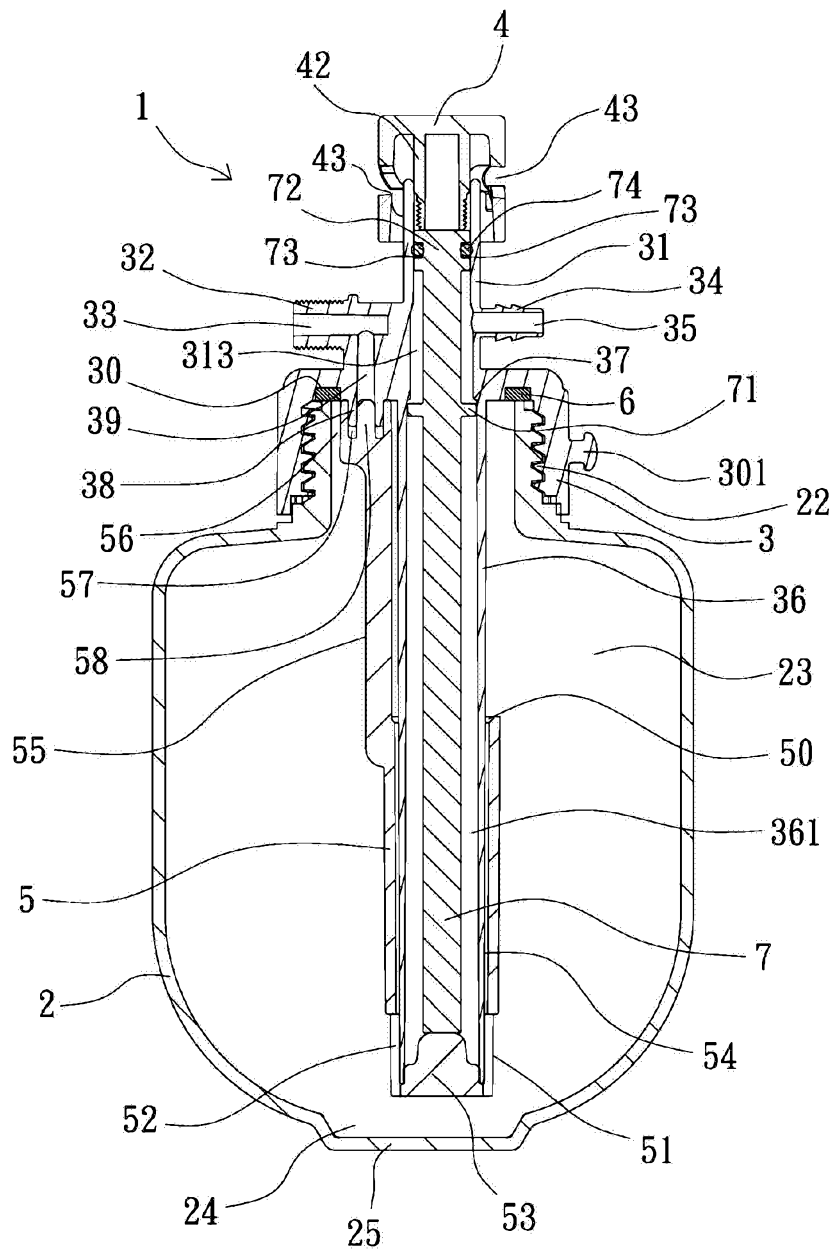


FIG. 10

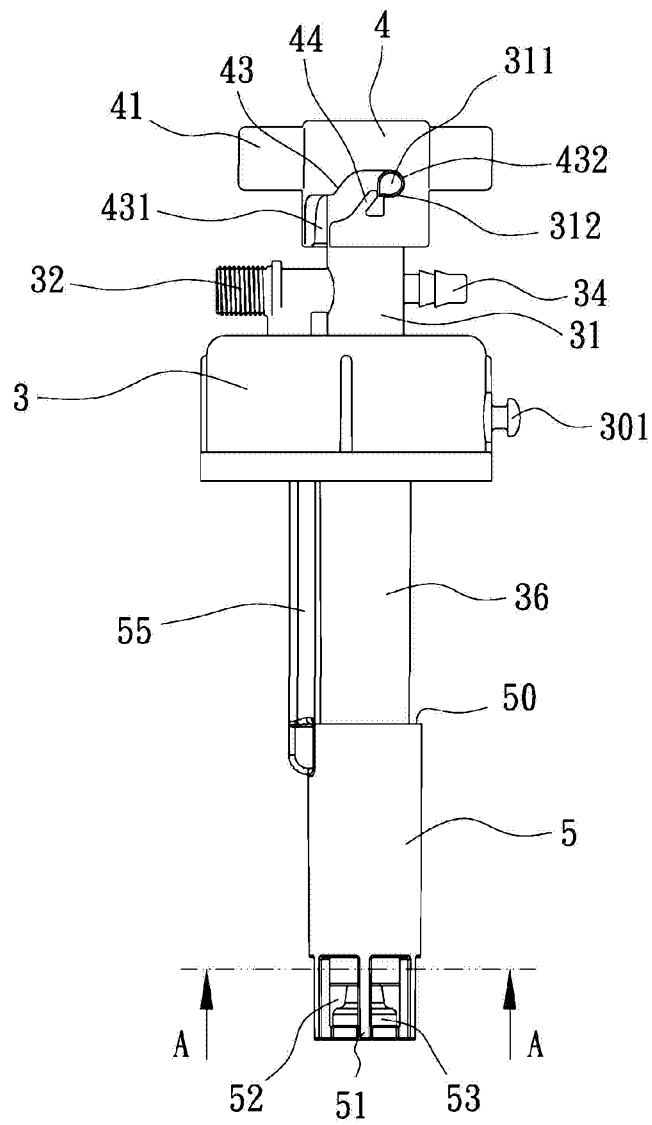


FIG. 11

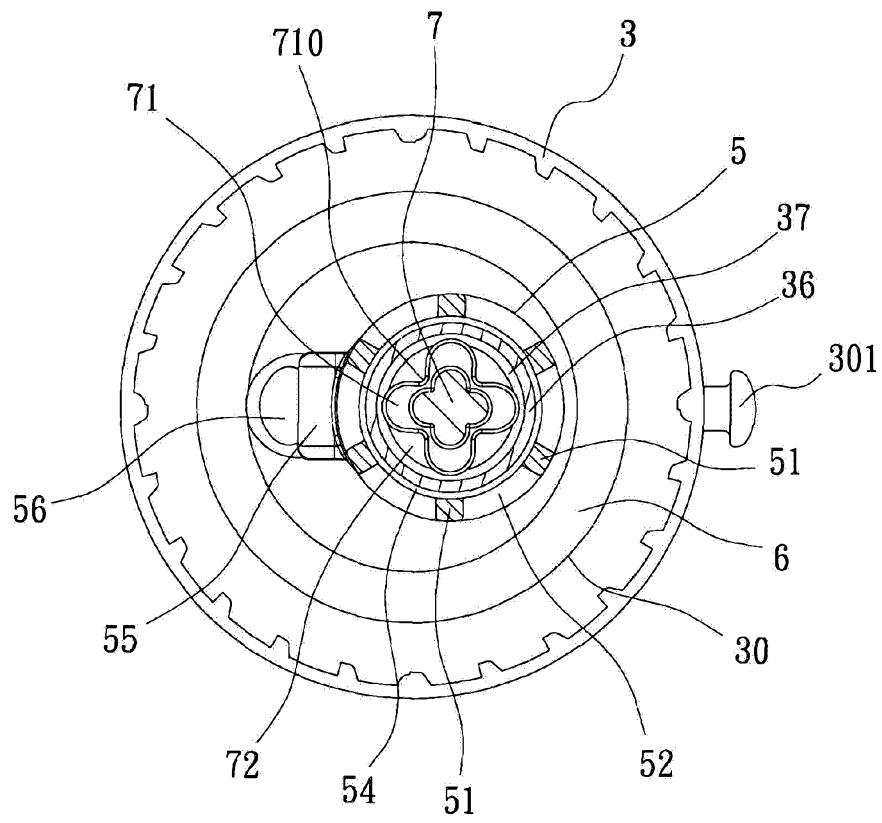


FIG. 12

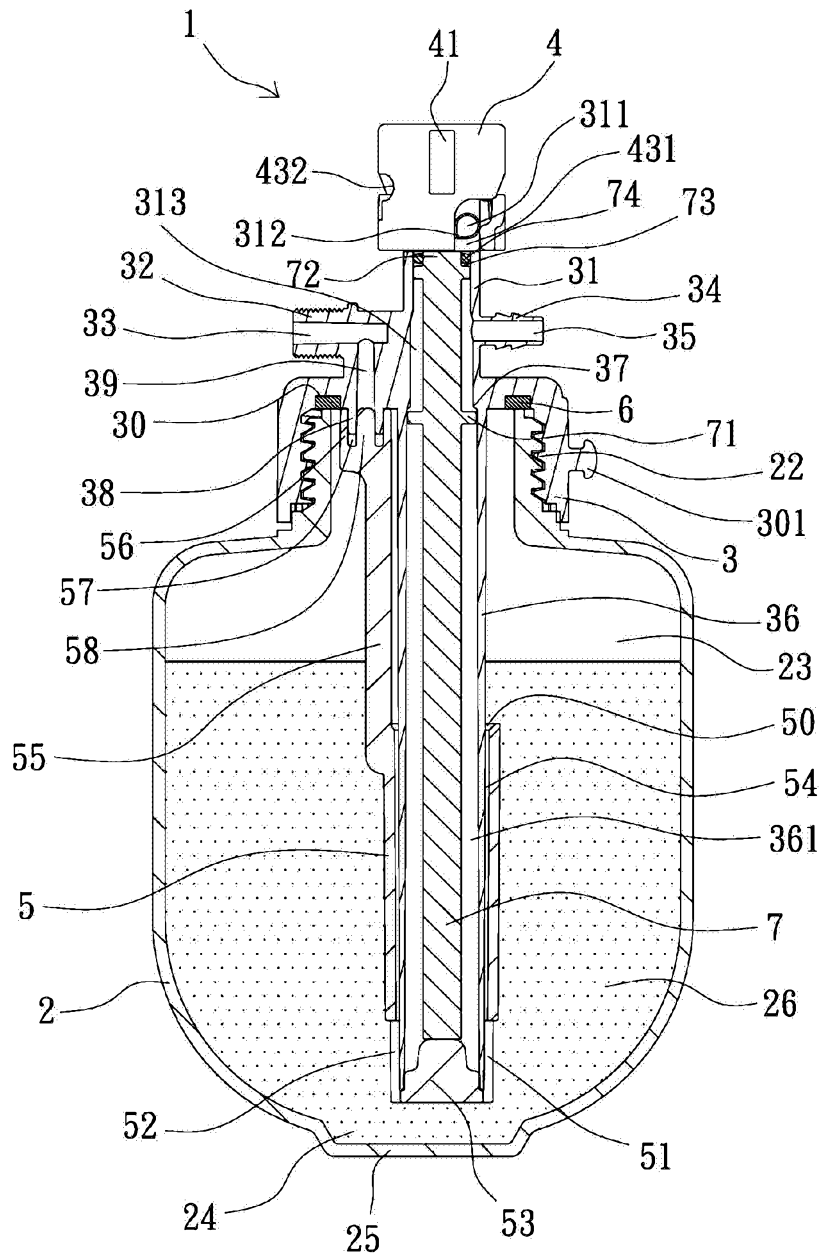


FIG. 14

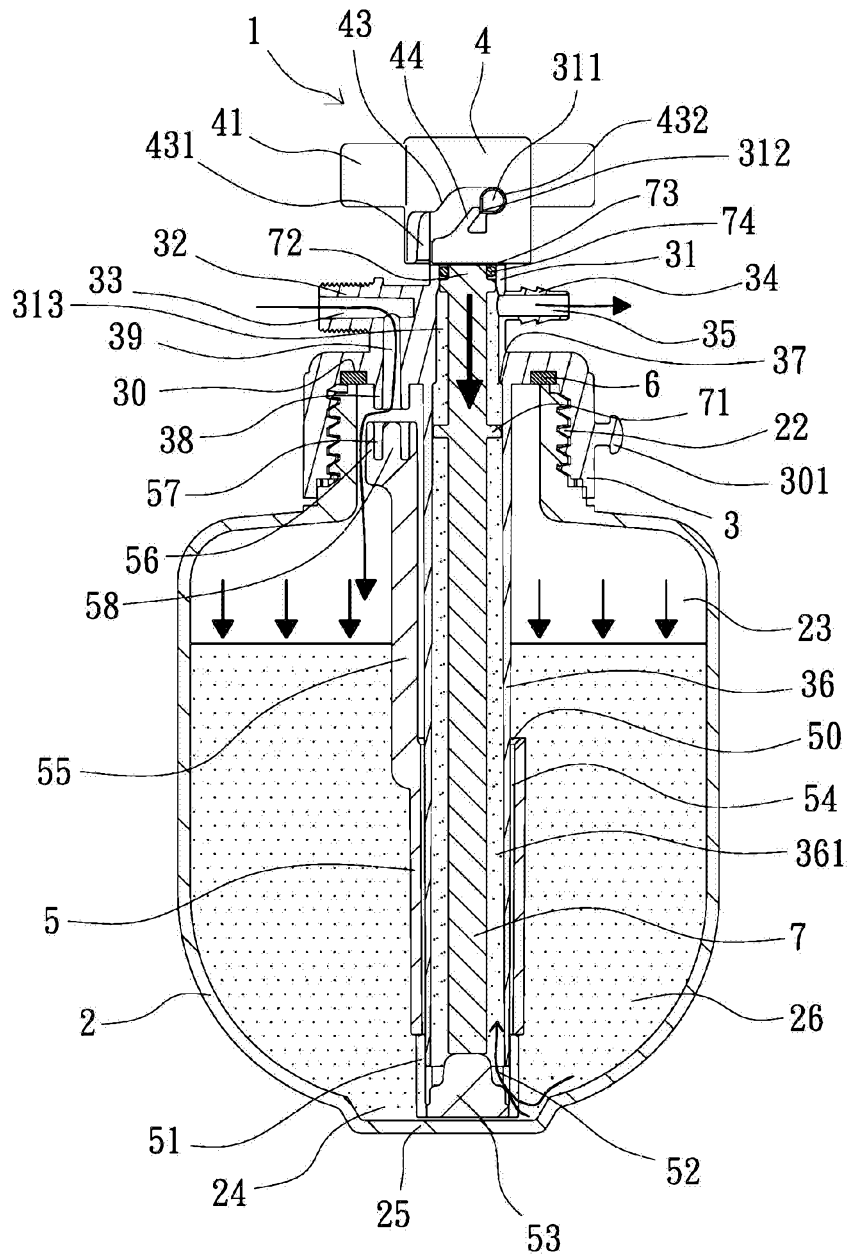


FIG. 15