(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 3 173 359 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
31.05.2017 Bulletin 2017/22

(51) Int Cl.:
B65D 83/22 *(2006.01)*

(21) Application number: **16200751.2**

(22) Date of filing: **25.11.2016**

(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
Designated Extension States:
BA ME
Designated Validation States:
MA MD

(30) Priority: **30.11.2015 IT UB20156024**

(71) Applicant: **ITAL G.E.T.E. SRL**
20154 Milano (IT)

(72) Inventor: **LOMBARDI, Giulia**
20081 ABBIATEGRASSO MI (IT)

(74) Representative: **Modiano, Micaela Nadia et al**
Modiano & Partners
Via Meravigli, 16
20123 Milano (IT)

(54) **CONTAINER FOR PRESSURIZED FLUID**

(57) A container for pressurized fluid (1), which comprises a dispenser (5), a dispensing valve (7), and a security device (3) arranged between the dispenser (5) and the dispensing valve (7) and fixed detachably to the dispenser (5).

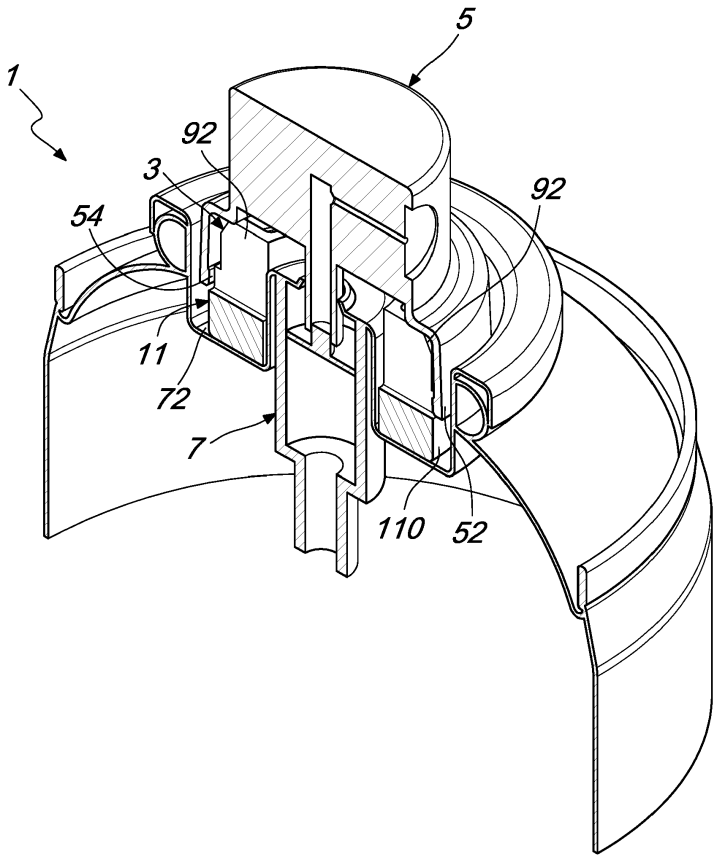

Fig. 1

EP 3 173 359 A1

Description

[0001] The present invention relates to a container for pressurized fluid, such as for example a spray canister, which comprises a security device, as well as the security device itself.

[0002] At sales points that offer spray canisters for sale, and in particular cans of spray paints, there has always been the need to protect the products themselves and the sales point from the unauthorized use of the spray cans by consumers. Consumers, in fact, wanting to see the exact appearance of the product, apply the product in the aisle, thus breaking the integrity of the spray canister and daubing equipment and surfaces of the sales point. The damage is twofold: the product can no longer be sold since it is no longer intact, and the surfaces of the sales point need to be cleaned.

[0003] Such problem also arises for other types of containers for pressurized fluids, such as for example deodorants for the body and for the environment, which often are subjected to unauthorized testing by the future purchaser.

[0004] Last but not least, containers for pressurized fluids adapted to contain insecticide fluids, lubricating fluids, fluids for the maintenance of mechanical components, and fluids for the cleaning and disinfection of surfaces lend themselves to tampering and unauthorized use directly on the shelves of the sales points.

[0005] It is obvious that the solution of using staff to supervise the aisles selling the above mentioned products is unacceptable.

[0006] Currently in fact the use is known of security rings, which are fixed to the container for pressurized fluid, and in particular glued or locked in place inside the bottom of the valve. Such security rings prevent the dispenser, or spray head, from being pressed downward in order to actuate the dispensing valve of the container proper.

[0007] Use of such containers requires, after the removal of the dispenser, the separation and extraction of the security ring. Separation and extraction of the security ring can be done by levering, between the ring proper and the bottom of the valve, with the blade of a screwdriver.

[0008] It is however evident that such operations to separate and extract the security ring can lead to damage to the container and to the dispensing valve.

[0009] Furthermore, in order to remove the security ring, often and willingly the consumer does not use the tools advised by the manufacturer, such as for example a screwdriver, but any means that the consumer has to hand, such as keys or tools on display at the sales point, if the tampering is carried out in the aisle, or keys, scissors or pocket knives if the removal of the security ring is carried out after purchase of the product.

[0010] A tool that is more pointed or sharper than a screwdriver, together with the force necessary in order to remove the security ring itself, can accidentally pierce or damage the bottom of the valve, or the seaming of the valve to the canister, thus placing the consumer's safety at risk, since these are containers for pressurized fluids.

[0011] The aim of the present invention is to provide a container for pressurized fluid that solves the above technical problem, eliminates the drawbacks and overcomes the limitations of the known art.

[0012] Within this aim, an object of the present invention is to provide a container for pressurized fluid that limits unauthorized tampering, especially at sales points of such containers.

[0013] Another object of the invention consists in providing a container for pressurized fluid that is capable of offering the widest guarantees of reliability and safety in use.

[0014] Another object of the invention consists in providing a container for pressurized fluid that is easy to implement and economically competitive when compared to the known art.

[0015] This aim and these and other objects which will become better apparent hereinafter are achieved by a container for pressurized fluid, comprising a dispenser and a dispensing valve, characterized in that it comprises a security device arranged between said dispenser and said dispensing valve and fixed detachably to said dispenser.

[0016] Such aim and such objects are also achieved by a security device for a container for pressurized fluid configured to be arranged between a dispenser of said container for pressurized fluid and a dispensing valve of said container for pressurized fluid and characterized in that it is configured to be fixed detachably to said dispenser, as well as by a dispenser of a container for pressurized fluid, comprising a security device, said dispenser being configured to be associated with a dispensing valve of said container for pressurized fluid so that said security device is arranged between said dispenser and said dispensing valve, characterized in that said security device is fixed detachably to said dispenser.

[0017] Further characteristics and advantages of the invention will become better apparent from the detailed description of a preferred, but not exclusive, embodiment of a container for pressurized fluid, which is illustrated by way of non-limiting example with the aid of the accompanying drawings wherein:

Figure 1 is a cross-sectional broken away perspective view of an embodiment of a container for pressurized fluid, according to the invention;

Figure 2 is an exploded cross-sectional broken away perspective view of an embodiment of a container for pressurized fluid, according to the invention;

Figures 3 and 4 are two different perspective views of a security device for a container for pressurized fluid, according to the invention.

[0018] With reference to the figures, a container for pressurized fluid, generally designated by the reference

numeral 1, comprises a dispenser 5 and a dispensing valve 7.

[0019] According to the invention, the container 1 comprises a security device 3 arranged between the dispenser 5 and the dispensing valve 7 and fixed detachably to the dispenser 5.

[0020] The security device 3 advantageously comprises means 9, 11 for fixing the security device 3 to the dispenser 5 by mechanical interference.

[0021] Such means 9, 11 for fixing by mechanical interference can comprise a plurality of slots 90 configured to receive and lock in place, detachably, by mechanical interference, corresponding wings 50 which protrude from the dispenser 5.

[0022] Each one of the slots 90 can be defined by a pair of elastically deformable walls 92, facing each other, which are adapted to retain the corresponding protruding wing 50 of the dispenser 5.

[0023] The slots 90 can be distributed equally spaced from each other along the circumference of the security device 3, just as the wings 50 can be distributed equally spaced from each other along the circumference of the dispenser 5.

[0024] In substance, the security device 3 is fixed to the dispenser 5 by virtue of the locking force exerted by the elastic walls 92 of the slot 90 against the corresponding wing 50 which is integral with the dispenser 5.

[0025] The means 9, 11 for fixing by mechanical interference can comprise, as an alternative or in addition to the plurality of slots 90 described above, an annular portion 110 configured to receive and lock in place, detachably, by mechanical interference, a corresponding collar 52 provided in the dispenser 5.

[0026] The collar 52 can in fact comprise a ring 54, which protrudes radially toward the inside of the dispenser 5 and is adapted to be locked in place around the annular portion 110 provided at the base of the security device 3.

[0027] The dispensing valve 7 advantageously comprises a bottom 72 and the security device 3 rests against such bottom 72.

[0028] The security device 3 is adapted to maintain the dispenser 5 at a distance from the valve 7 that is sufficient so that the dispenser 5 cannot actuate the valve 7. In particular, the pressing of the dispenser 5 by a consumer does not entail a downward movement of the dispenser 5 that is such as to actuate the valve 7, owing to the interposition, between the bottom 72 of the valve 7 and the dispenser 5, of the security device 3.

[0029] The security device 3 is detachable from the dispenser 5 by way of means for gripping and pulling the security device 3.

[0030] Such gripping and pulling means can be common tools such as pliers.

[0031] As illustrated in particular in Figure 1, the security device 3 is advantageously hidden from the view of the consumer, since it is partially hidden inside the dispenser 5 and partially inside the mouth of the container 1 where the valve 7 is positioned.

[0032] Advantageously the security device 3, once removed from the dispenser 5, can be fixed again to the dispenser 5, by locking in place, in order to protect from subsequent unauthorized use, for example by children.

[0033] The present invention also relates to a security device 3 for a container for pressurized fluid 1, which is configured to be arranged between the dispenser 5 and the dispensing valve 7 and is configured to be fixed detachably to the dispenser 5.

[0034] The present invention further relates to a dispenser 5 of a container for pressurized fluid 1 which comprises a security device 3. The dispenser 5 is configured to be associated with a dispensing valve 7 of the container for pressurized fluid 1 so that the security device 3 is arranged between the dispenser 5 and the dispensing valve 7, wherein the security device 3 is fixed detachably to the dispenser 5.

[0035] Operation of the container for pressurized fluid is clear and evident from the foregoing description.

[0036] In particular, during the assembly step of the container, the security device 3 is fixed, by locking in place, by mechanical interference, to the dispenser 5, and the assembly of security device 3 and dispenser 5 is then associated with the dispensing valve 7 of the container body.

[0037] The presence of the security device 3 prevents the pressure of the dispenser 5 from actuating the dispensing valve 7, unless the security device 3 has been removed.

[0038] The removal of the security device 3 entails the separation of the dispenser 5 and of the security device 3 fixed thereto from the valve 7, and then the separation and extraction of the security device 3 from the dispenser 5, by way of tools that can grasp and pull the security device 3, for example pliers, or optionally even by hand if one has the necessary strength.

[0039] In practice it has been found that the container for pressurized fluid, according to the present invention, achieves the intended aim and objects since it makes it possible to protect the container proper from unauthorized use, while at the same time ensuring complete safety for the consumers.

[0040] Another advantage of the container for pressurized fluid, according to the invention, consists in that the security device, coupled to the dispenser, is inconspicuous to the consumer and at first sight it appears to be all of a piece with the dispenser proper.

[0041] Such inconspicuous appearance ensures that, at the sales point, a consumer who wants to tamper with the container in order to try its contents will not immediately understand how such container is protected, except by carefully reading the instructions for use contained on the container proper.

[0042] The minutes of delay gained are often enough to make the consumer desist from his/her attempt at tampering with the container in order to try its contents, and therefore reduces the probability that the consumer can

act undisturbed in the action of tampering.

[0043] Another advantage of the container for pressurized fluid, according to the invention, consists in that it eliminates the risk of damaging or piercing the container body and/or the dispensing valve, since the dispenser must be removed from the body of the container for pressurized fluid and the consumer must then act on the two components in plastic, i.e. the dispenser and the security device, in order to uncouple the two plastic parts without any risk of accidentally damaging the container body, since this is unaffected by the operations to remove the security device.

[0044] Furthermore, removal of the security device is intrinsically safe, since it is never carried out with hazardous tools such as screwdrivers, awls, or scissors. Such security device is in fact removed from the dispenser by way of traction with a gripping tool, and it does not lend itself to removal by way of levering with pointed or sharp tools.

[0045] Another advantage of the container for pressurized fluid according to the invention consists in that the consumer, after purchasing and partially using the contents of the container, can replace the security device in position, thus preventing tampering or unauthorized use, for example by children.

[0046] The container for pressurized fluid thus conceived is susceptible of numerous modifications and variations all of which are within the scope of the appended claims.

[0047] Moreover, all the details may be substituted by other, technically equivalent elements.

[0048] In practice the materials employed, provided they are compatible with the specific use, and the contingent dimensions and shapes, may be any according to requirements.

[0049] The disclosures in Italian Patent Application No. 102015000078040 (UB2015A006024) from which this application claims priority are incorporated herein by reference.

[0050] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly, such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

Claims

1. A container for pressurized fluid (1), comprising a dispenser (5) and a dispensing valve (7), **characterized in that** it comprises a security device (3) arranged between said dispenser (5) and said dispensing valve (7) and fixed detachably to said dispenser (5).

2. The container for pressurized fluid (1) according to claim 1, **characterized in that** said security device (3) comprises means (9, 11) for fixing said security device (3) to said dispenser (5) by mechanical interference.

3. The container for pressurized fluid (1) according to claim 1 or 2, **characterized in that** said means (9, 11) for fixing by mechanical interference comprise a plurality of slots (90) configured to receive and lock in place, detachably, by mechanical interference, corresponding wings (50) that protrude from said dispenser (5).

4. The container for pressurized fluid (1) according to one or more of the preceding claims, **characterized in that** said means (9, 11) for fixing by mechanical interference comprise an annular portion (110) which is configured to receive and lock in place, detachably, by mechanical interference, a corresponding collar (52) which is provided in said dispenser (5).

5. The container for pressurized fluid (1) according to one or more of the preceding claims, **characterized in that** each one of said slots (90) is defined by a pair of elastically deformable walls (92) which are adapted to retain the corresponding protruding wing (50) of said dispenser (5).

6. The container for pressurized fluid (1) according to one or more of the preceding claims, **characterized in that** said valve (7) comprises a bottom (72), said security device (3) resting against said bottom (72).

7. The container for pressurized fluid (1) according to one or more of the preceding claims, **characterized in that** said security device (3) is adapted to keep said dispenser (5) at a distance from said valve (7) that is sufficient so that said dispenser (5) cannot actuate said valve (7).

8. The container for pressurized fluid (1) according to one or more of the preceding claims, **characterized in that** said security device (3) is detachable from said dispenser (5) by virtue of means for gripping and pulling said security device (3).

9. A security device (3) for a container for pressurized fluid (1) configured to be arranged between a dispenser (5) of said container for pressurized fluid (1) and a dispensing valve (7) of said container for pressurized fluid (1) and **characterized in that** it is configured to be fixed detachably to said dispenser (5).

10. A dispenser (5) of a container for pressurized fluid, comprising a security device (3), said dispenser (5) being configured to be associated with a dispensing valve (7) of said container for pressurized fluid (1) so that said security device (3) is arranged between

said dispenser (5) and said dispensing valve (7), **characterized in that** said security device (3) is fixed detachably to said dispenser (5).

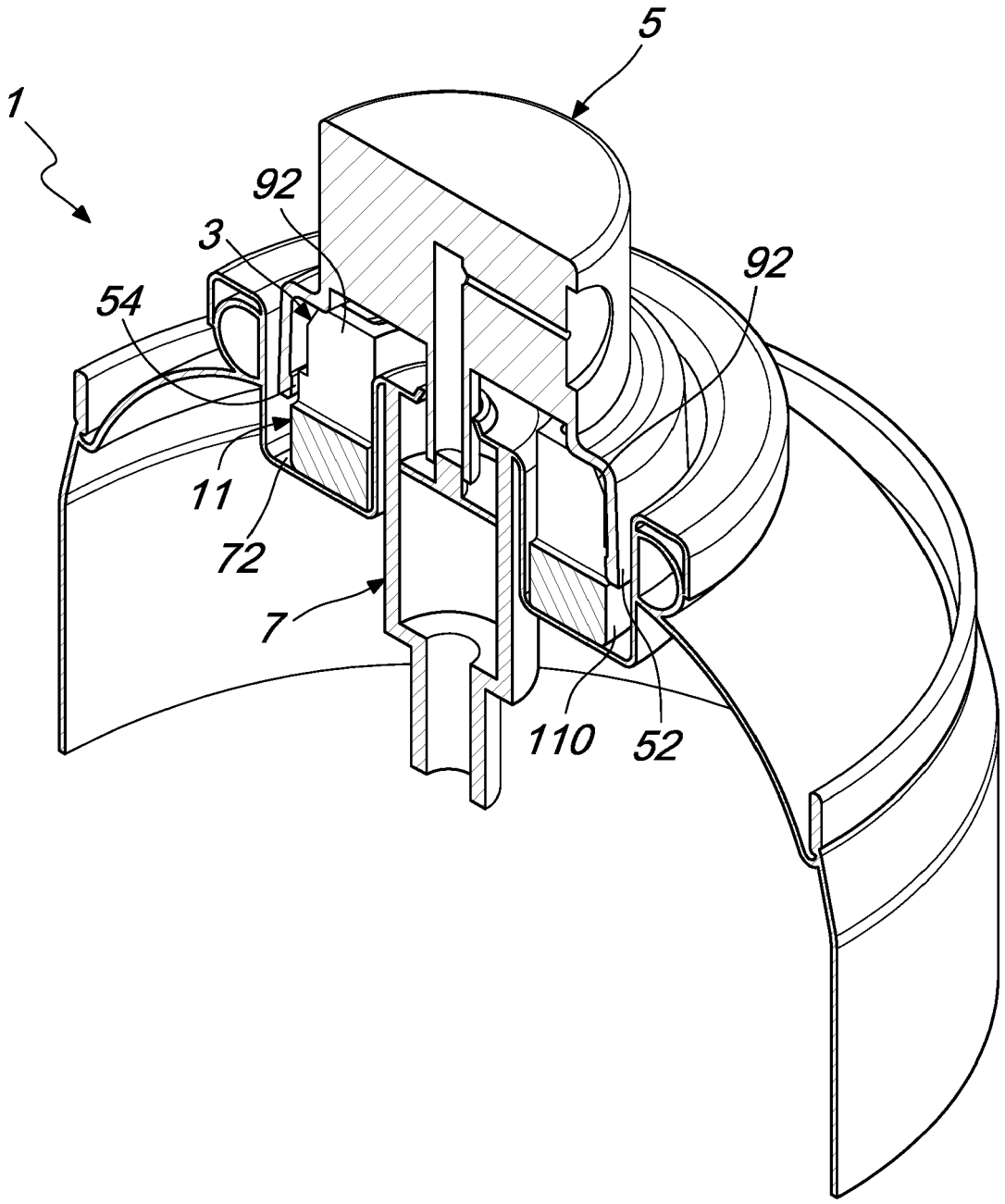

Fig. 1

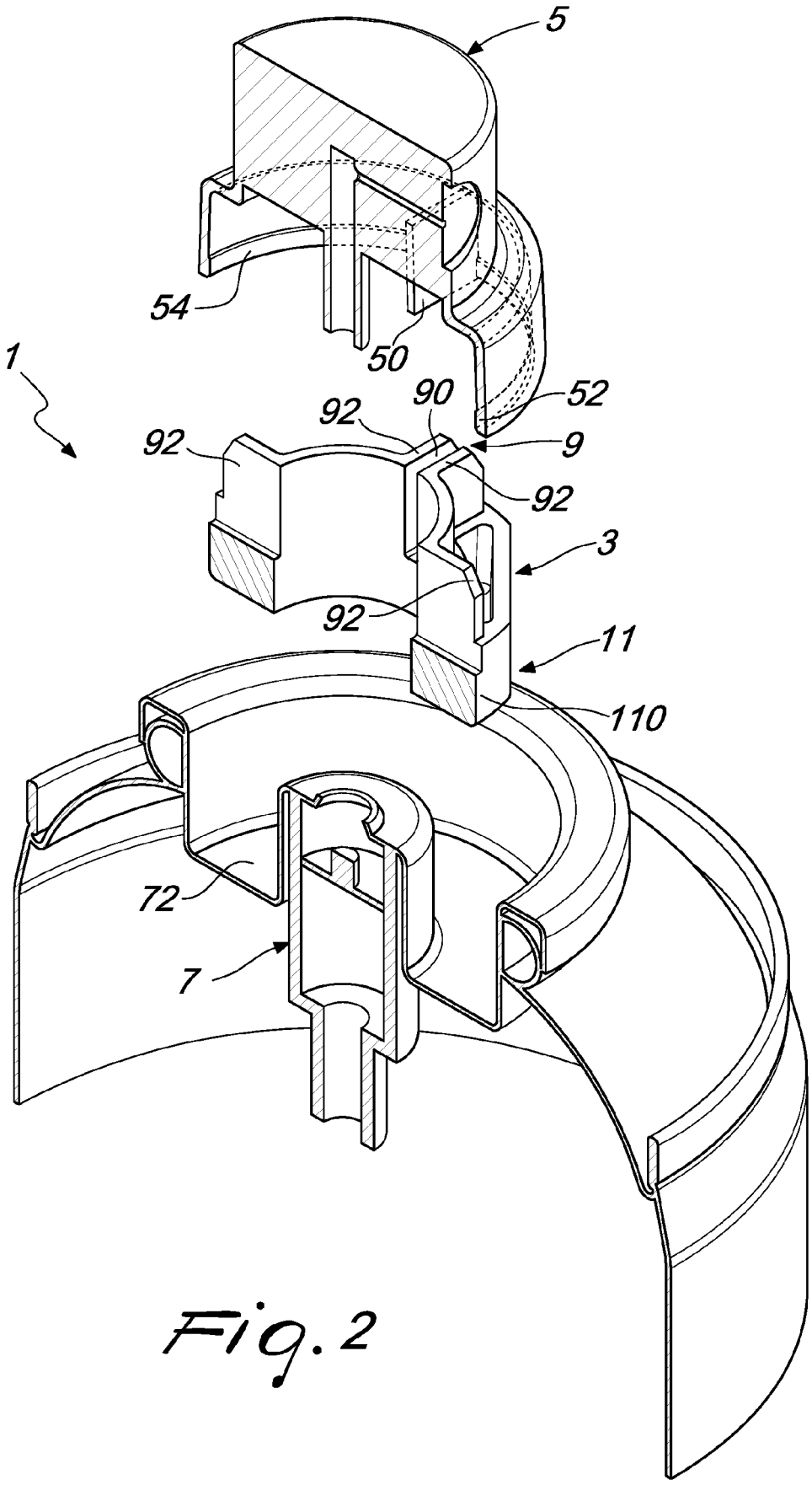

Fig. 2

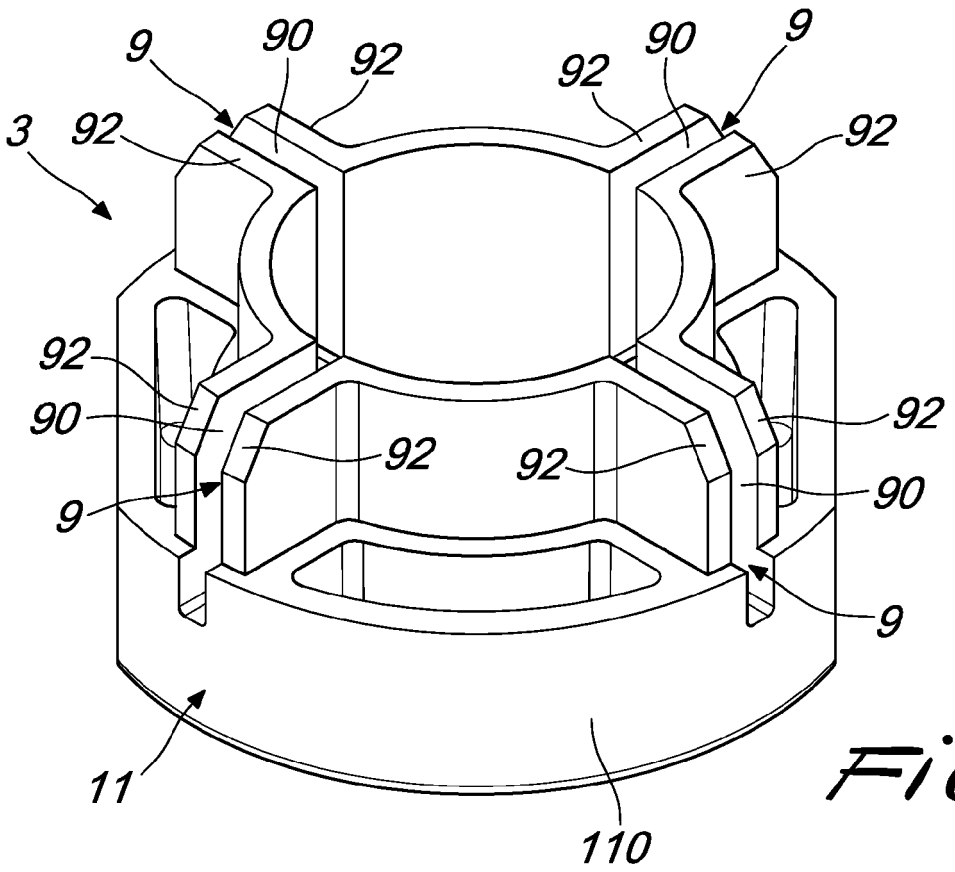
9
90
92
92
90
9
3
92
92
92
92
90
92
92
92
90
9
9
11
110

Fig. 3

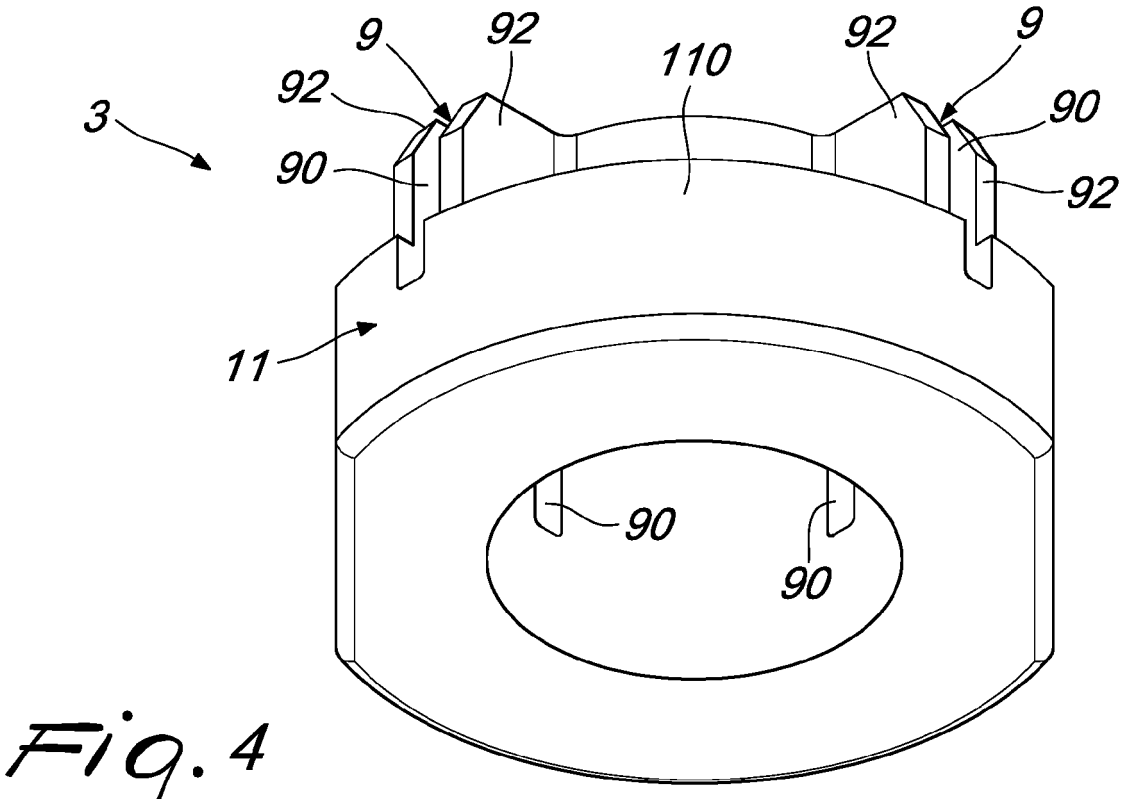
9
92
110
92
9
92
92
90
3
90
92
11
90
90

Fig. 4

Europäisches Patentamt
European Patent Office
Office européen des brevets

EUROPEAN SEARCH REPORT

Application Number
EP 16 20 0751

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	FR 2 243 886 A1 (STEINER MAURICE [FR]) 11 April 1975 (1975-04-11) * abstract; figures 1,2 * -----	1-4,6-10	INV. B65D83/22
X	FR 1 447 222 A (FISCHER) 29 July 1966 (1966-07-29) * abstract; figures 3,4 * -----	1,2,6-10	
A	US 2004/035892 A1 (SCHNEIDER HEINZ [DE]) 26 February 2004 (2004-02-26) * the whole document * -----	1-10	
A	JP H10 323587 A (YOSHINO KOGYOSHO CO LTD) 8 December 1998 (1998-12-08) * the whole document * -----	1-10	
			TECHNICAL FIELDS SEARCHED (IPC) B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	20 March 2017	Moroncini, Alessio

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 16 20 0751

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

20-03-2017

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
FR 2243886 A1	11-04-1975	NONE	
FR 1447222 A	29-07-1966	NONE	
US 2004035892 A1	26-02-2004	AU 7980101 A	13-03-2002
		CA 2419832 A1	18-02-2003
		CN 1484603 A	24-03-2004
		DE 10042302 A1	04-04-2002
		DE 19927381 A1	16-11-2000
		EP 1313652 A2	28-05-2003
		JP 2004507408 A	11-03-2004
		US 2004035892 A1	26-02-2004
		WO 0218234 A2	07-03-2002
JP H10323587 A	08-12-1998	JP 3751417 B2	01-03-2006
		JP H10323587 A	08-12-1998

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82