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(54) **Pressurised gas sprayer**

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EP 1 559 659 B1

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Description

OBJECT OF THE INVENTION.

[0001] The object of the present invention is a pressurised gas sprayer, of among the atomizers or sprayers intended for the diffusing of a liquid contained in a recipient in an atomised form.

[0002] The present invention is characterised in that it is capable of achieving the high pressure spraying of the liquid contained inside a recipient due to a gas which, when expanded, produces an interior high pressure without the liquid inside being discharged mixed with the gas in any way in the spraying.

[0003] Therefore the present invention lies within the ambit of the atomising or spraying of liquids contained in recipients, in which the diffusion is carried out at high pressure.

BACKGROUND OF THE INVENTION.

[0004] There are numerous inventions existing on the market which disclose systems of pressurised spraying, using for this a recipient inside which are held in a separate manner both the liquid contained in the interior thereof and a gas at high pressure.

[0005] An aerosol or spraying device is known in which the distribution of the liquid contained in its interior is effected propelled by a gas which is at high pressure in the interior, both the product to be dispensed and the gas being discharged together.

[0006] For this purpose, in the interior of the container a cartridge is mounted which has inside the product to be dispensed. Inside the cartridge there is a piston, which constitutes the bottom of the cartridge once the latter is full. The space lying between the external container and the cartridge of the product to be dispensed is filled with pressurised gas, refilling being possible through the lower part of the assembly.

[0007] This system has the drawback of complexity in the construction of the assembly of the device in order to be able to dispense a product, wherein also the dispensing has necessarily to be carried out in a joint manner of the product and the gas.

[0008] Other systems of delivering products by means of sprayers with the objective of being able to carry out the spraying at high pressure have abutting upon the actual dispensing gun some means of supplying gas to the interior of the internal receptacle with the objective of pressurising the container.

[0009] These systems have the drawback of having to effect the continuous pressurisation of the container, said pressurising means having to be continuously abutting upon the dispensing gun.

[0010] Therefore, it is an objective of the present invention to overcome the aforesaid drawbacks, developing for this a pressurised gas sprayer, in which the distribution of the product to be dispensed is not carried out

in a manner mixed with gas, wherein also the means of pressurising the internal product are not abutting upon the delivery gun.

[0011] It is known from the State of the art a pressure container as the one disclosed in DE 4039632, in the pressure container there are two different chamber, a fluid chamber and a gas chamber being keyed engagement, having the gas chamber an inlet valve, and means for emptying the pressurised gas contained within. Now the objective of the present invention is to overcome the drawback derived from the structure of the pressure container disclosed in DE 4039632, which is the fact of being necessary additional emptying means for dispensing the gas into the fluid chamber. This drawback is overcome in the invention.

DESCRIPTION OF THE INVENTION.

[0012] The disclosed invention of a pressurised gas sprayer basically consists of a recipient container of the product to be dispensed in the interior of which is housed a refillable reservoir of pressurised gas.

[0013] Said refillable gas reservoir is fastened to the dispensing means, namely the activating trigger and the discharge valve, and it is mounted so that when the dispensing means are fastened on the recipient container the compressed gas reservoir is left on the inside of said recipient container.

[0014] The refillable gas reservoir has a double-acting valve for filling and emptying and is connected by means of a wire or tape with a seal arranged on the body of the dispensing means.

[0015] Through said seal it is possible to completely empty the gas from the reservoir to the container or bottle, wherein the liquid is contained, increasing the internal pressure of the bottle from 1 atmosphere to 3 atmospheres.

[0016] By acting on the dispenser trigger pressure is applied to a discharge valve causing the liquid contained at high pressure inside the bottle to escape under pressure to the exterior.

[0017] The liquid in the interior of the bottle escapes to the exterior without being mixed with the gas, since a small tube connects the discharge valve with the bottom of the bottle where there is always liquid until its exhaustion.

DESCRIPTION OF THE DRAWINGS.

[0018] To complete the description that will be given below and with the object of assisting in a better understanding of the characteristics thereof, the present descriptive specification is accompanied with a set of drawings in figures of which, by way of illustration and not restrictively, the most significant details of the invention are represented.

[0019] Figure 1. It shows a representation of the pressurised gas sprayer object of the invention wherein the

main elements which form the same are observed.

PREFERRED EMBODIMENT OF THE INVENTION.

[0020] In the light of the aforementioned figures a description of a preferred method of embodiment of the invention disclosed is given below.

[0021] In figure 1 it can be observed how the pressurised gas sprayer is formed by a pressurised gas reservoir (1) abutting upon the body (10) wherein the dispensing means (10) are located in such a way that with the dispensing means fastened on the bottle, the gas reservoir (1) remains on the inside of the bottle.

[0022] Moreover, the pressurised gas reservoir (1) has a double-acting valve (2) which allows the filling with and emptying of the gas contained in the interior thereof. Said valve (2) is connected by means of a wire or a tape (3) with a seal (4) mounted on the body (10) of the dispensing means, so that by acting on said seal and pulling on the wire or tape (3) the discharge of the gas contained in the reservoir (1) takes place into the interior of the bottle, achieving the pressurising thereof, producing an increase in pressure from 1 atmosphere to 3 atmospheres approximately.

[0023] On the other hand and with the object of achieving the distribution of the liquid inside, the device has an activating trigger (5) which presses on a discharge valve (6) which is connected by means of a small tube (9) with the bottom of the bottle wherein the liquid to be dispensed is located, in this way the spraying of the interior liquid is achieved at high pressure without it being mixed with the gas, escaping through a diffuser (7).

Claims

1. Pressurised gas sprayer of among the sprayers comprising:

- A body (10) in which dispensing means are mounted,
- Dispensing means consisting of a trigger (5) which presses on a discharge valve (6) which in turn is connected with a small tube (9) which extends to the bottom of a bottle container containing liquid,
- An external seal (4) mounted on the body of the dispensing means,

characterised in that:

- a gas reservoir (1) is joined to the body (10) of the dispensing means, so that the reservoir is housed on the inside of the bottle when the body (10) is fastened to the bottle.
- the gas reservoir (1) has a double effect valve (2) for filling and emptying the gas reservoir with gas.

- The external seal (4) is connected to the double effect valve (2) through a wire or a tape.

whereby the sprayer allows the spraying of the liquid contained inside the bottle which escapes through a diffuser (7) without being mixed with the gas.

Patentansprüche

1. Unter Druck stehende Sprühvorrichtung unter den Sprühvorrichtungen, umfassend:

- ein Gehäuse (10), in dem Abgabemittel montiert sind,
- Abgabemittel, bestehend aus einem Auslöser (5), der auf ein Auslassventil (6) drückt, das seinerseits mit einem kleinen Rohr (9) verbunden ist, das sich zum Boden eines Flaschenbehälters erstreckt, der Flüssigkeit enthält,
- eine externe Dichtung (4), die auf das Gehäuse der Abgabemittel montiert ist,

dadurch gekennzeichnet, dass:

- ein Gasbehälter (1) mit dem Gehäuse (10) der Abgabemittel verbunden ist, so dass der Behälter auf der Innenseite der Flasche untergebracht ist, wenn das Gehäuse (10) an die Flasche befestigt ist;
- der Gasbehälter (1) ein Ventil mit doppelter Wirkung (2) aufweist, um den Gasbehälter mit Gas zu füllen und davon zu leeren;
- die äußere Dichtung (4) mit dem Ventil mit doppelter Wirkung (2) mithilfe eines Drahts oder eines Bandes verbunden ist,
- wodurch die Sprühvorrichtung ermöglicht, die Flüssigkeit zu versprühen, die im Inneren der Flasche enthalten ist, die durch einen Zerstäuber (7) entweicht, ohne mit dem Gas vermischt zu werden.

Revendications

1. Pulvérisateur à gaz à pression du type pulvérisateurs qui comprennent :

- un corps (10) sur lequel sont montés les dispositifs de distribution ;
- des moyens qui consistent en un déclencheur (5) qui fait pression sur une soupape de décharge (6) qui à son tour est reliée à un petit tube (9) qui s'étend vers la partie inférieure d'une bouteille qui contient du liquide ;
- une fermeture externe (4), montée sur le corps des moyens de distribution, **caractérisé par le fait que**

- un réservoir à gaz (1) est assemblé au corps (10) des moyens de distribution, de sorte que le réservoir reste logé à l'intérieur de la bouteille lorsque le corps (10) est fixé à la bouteille ;
- le réservoir à gaz (1) présente une soupape à double effet (2) destinée à remplir et à vider le réservoir à gaz avec du gaz ;
- la fermeture externe (4) est reliée à la soupape à double effet (2) à travers un fil ou une bande,

de sorte que le pulvérisateur permet la pulvérisation de liquide contenu à l'intérieur de la bouteille qui s'échappe à travers un diffuseur (7) sans se mélanger avec le gaz.

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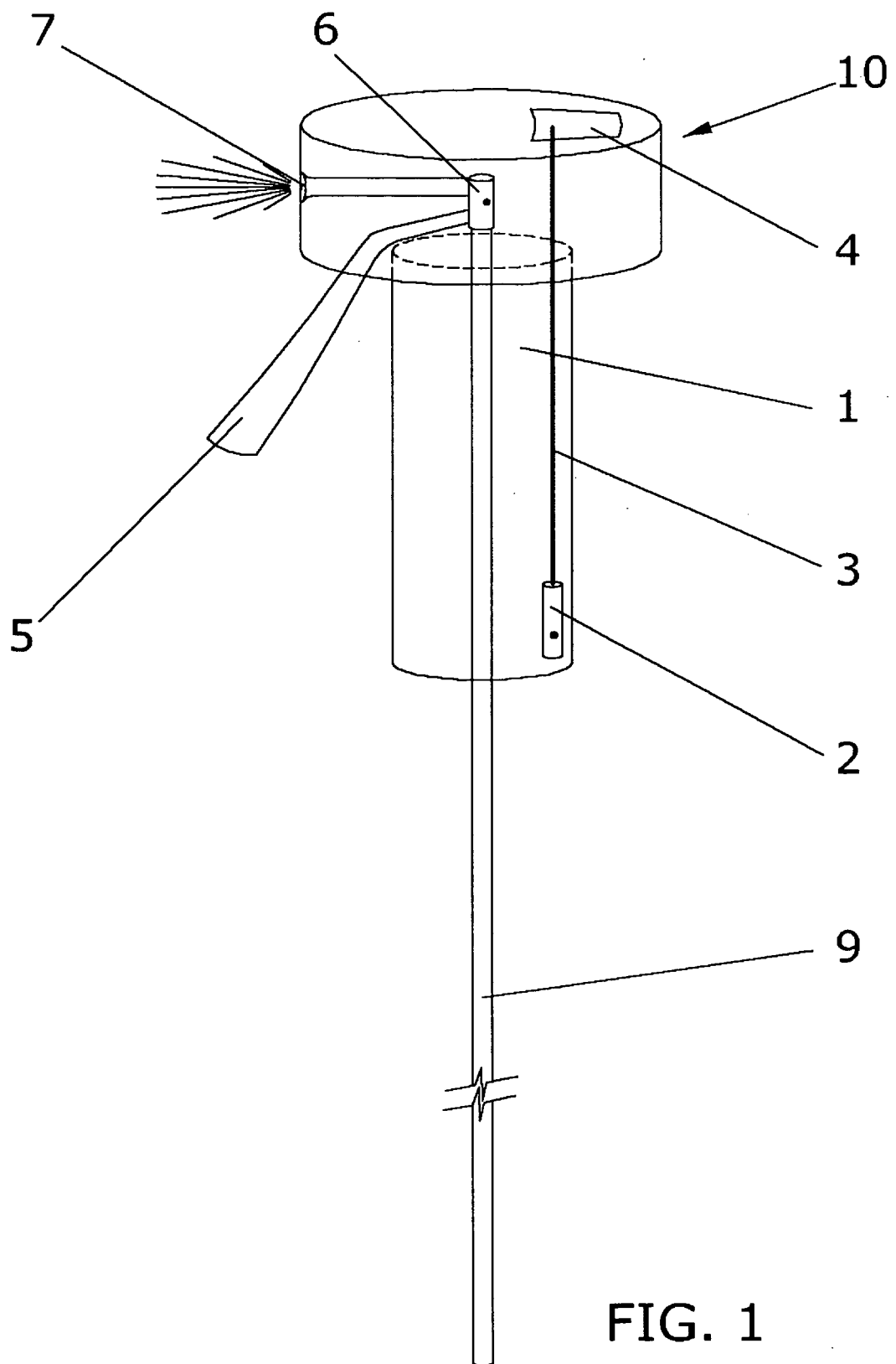
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REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- DE 4039632 [0011] [0011]