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(54) **Wax-warmer for depilation with ejection device**

Gerät zum Aufwärmen von Enthaarungswachs mit einer Auswurfvorrichtung

Appareil pour chauffer de la cire à épiler avec dispositif d'éjection

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WO-A-98/26687 **ES-A- 2 028 739**

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Description

[0001] The present invention concerns a wax-warmer for depilation of the type comprising a casing open at one end, designed to contain a depilation wax package and provided with resistive means for warming and smelting the wax contained in the package.

[0002] The depilation wax at room temperature is solid or, however, pasty thus making it impossibile to apply onto the skin. Therefore, it is necessary to warm the wax in order to smelt it, so as to make it possible to apply onto the skin where, cooling down, it solidifies forming a single layer together with the hair; by pulling away this layer, the hair included in the wax layer is eliminated.

[0003] Wax-warmer devices containing a depilation wax package or cartridge, which have a wax distributor roller at the upper end, are well-known. By electrically supplying the resistive means of the wax-warmer, the wax contained in the package is warmed at a temperature sufficient to smelt it so that, holding the wax-warmer containing the wax package in hand, it is possible to spread the smelted wax onto the skin without the risk of burns. Obvoiusly, as soon as the wax is sufficiently smelted, the electric supply to the resitive means is interupted. When the application of the wax on the skin is terminated, the wax package, which remains inside the wax-warmer, cools and the wax contained therein solidifies again.

[0004] Once the wax package is exhausted, they have to substitute it with a new one, whereby it is necessary to remove the old one.

[0005] However, the continuous smelting operations, applications of the wax onto the skin and its solidifying, make the wax, which comes out from the distributor roller, able to dirty the upper part of the wax package creating different problems. In fact, when trying to extract the empty package, the user easily gets dirty and, furthermore, due to the unctuosity of the wax, the package becomes slippery hampering the extraction of the empty package. Another drawback is due to the fact that the user does not notice when the wax package is getting exhausted unless, every now and then, he extracts the package to verify the wax level contained therein with all the problems, previously stated. Document WO-9826687 discloses the preamble of claim 1.

[0006] The aim of the invention is that of eliminating all the drawbacks cited with reference to the described prior art.

[0007] The aim is reached with a wax-warmer of the above-mentioned type, that is a wax-warmer for depilation of the type comprising a casing open at one end, designed to contain a depilation wax package and provided with resistive means for warming and smelting the wax contained in the package, characterized in that it comprises ejection means of said package from said casing.

[0008] In such a way, in order to eject the package, it is sufficient to operate onto the ejection means which allow an easy extraction of the package without, furthermore, running the risk of getting the hands dirty.

[0009] The ejection means are of manual-operated type, consequently they are simple, cheap and reliable. Moreover, the wax-warmer comprises elastic means which return the ejection means to their original position after they have ejected the wax package, so as to allow the new package to enter.

[0010] The wax-warmer is provided with a little transparent window which is resistant to a minimum of 60°C, in order to check the wax level contained inside the package, and therefore to substitute the package when the wax therein is exhausted.

[0011] The resitive means are preferably made of an electric resistance with a positive temperature coefficient, namely of the PTC type in order to limit the maximum value of the electric current intensity as the temperature rises.

[0012] These and other advatages of the invention will be more evident from the following detailed description of an embodiment made for exemplifying and not limiting the scope, with reference to the subsequent figures wherein:

- figure 1 ia a side view of a wax-warmer according to the present invention;
- figure 2 is an elevation cross-section of the wax-warmer of figure 1 taken along the section line II-II in which the ejection device is represented in an inoperative postion;
- figure 3 is an enlarged view of the ejection device represented in figure 2;
- figure 4 is an elevation cross-section similar to those of figure 2 wherein the ejection device is represented in an operative position.

[0013] In figures 1, 2 and 4 a wax-warmer for depilation is completely represented with reference 10. The wax-warmer 10 comprises a casing 12 consisting of a base 12a, a side wall 12b defining an upper opening 12c and a double bottom 12d. The side wall 12b and the double bottom 12d define a housing seat 14 designed to house wax packages 16.

[0014] The wax package 16 consists of a cartridge 18 containing depilation wax having an upper end in which a roller distributor 20 is mounted. In the casing 12 an electric resistance 22 of the PTC type (positive temperature coefficient) is positioned so that as the temperature rises, the value of the electric resistance 22 increases, thus limiting the maximum value of the electric current's intensity, avoiding in such a way problems due to overheating.

[0015] The wax-warmer 10 is provided with a manual-operated ejection device for the wax package 16, indicated in its entirety with reference 30. The ejection device 30, best illustrated in figure 3, comprises an ejector 32 formed with a plate 36, the opposite surfaces of which respectively have a semisphere-like knob 38 and a pin

40.

[0016] Inside the casing 12, between the base 12a and the double bottom 12d, a parallelepipedic chamber 42 is formed, longitudinally delimitated by two opposite walls: a lower wall 42a and an upper wall 42b both having dimensions substantially equal to those of the plate 36. Inside the chamber 42 the plate 36 longitudinally slides freely. The lower wall 42a has a hole 44 from which the knob 38 is free to come out, whereas the upper wall 42b has a hole 46 in which the pin 40 slides. The double bottom 12d also has a hole 48 from which the end of the pin 40 is free to come out.

[0017] Finally, the lower wall 42a is recessed in respect to the base 12a of the casing 12, so that when the plate 36 is positioned against the lower wall 42a of the chamber 42 and the knob 38 completely comes out from the chamber 42, the latter does not project outside with respect to the base 12a of the casing 12. Inside the chamber 42, between the plate 36 and the upper wall 42b of the chamber 42 an helicoidal spring 50 is interposed.

[0018] The functioning of the manual-operated extraction device 30 is as follwing. By completely inserting a wax package 16 inside the casing 12 by means of the upper opening 12c, the package 16 is contained in the housing seat 14 and abuts against the double bottom 12d. The pin 40 is almost completely housed in the chamber 42 and it does not project form the hole 48 of the double bottom 12d, the plate 36 is positioned against the lower wall 42a, and knob 38 completely comes out from the chamber 42. The ejection device 30 is in the rest or inoperative position, as illustrated in figures 2 and 3.

[0019] When the wax package 16 is exhausted and one has to proceed with its substitution, it is sufficient to press the knob 38 so as to move the plate 36 towards the upper wall 42b thus compressing the spring 50. The pin 40 slides inside the hole 46 of the upper wall 42b and comes out from the double bottom 12d through the hole 48, thus pressing on the bottom of the wax package 16. The ejection device 30 is in the operative position for ejecting the package 16, as represented in figure 4. After holding the wax package 16 in hand and extracting it completely from the casing 12, the knob 38 is released and the ejection device 30 returns to the original position again, illustrated in figures 2 and 3.

[0020] In the side wall 12b of the casing 12, near the double bottom 12d a substantially rectangular small window 60, which is transparent and resistant to a minimum of 60°C, is provided. Thus, it is possible to verify the wax level remaining inside the package 16 and, then, to notice when the package is exhausted in order to proceed with its substitution by a new package, obviously using the ejection device 30, as described above.

[0021] For example, it is possible to use a spring which reacts when strained, that is, when one uses the ejector 30 in order to eject the wax package 16, the spring is strained instead of being compressed.

[0022] For a better sliding, pin 40 may be provided with two guiding tongues which slide inside corresponding slots designed in the side walls of the chamber 42.

Claims

1. A wax-warmer for depilation of the type comprising a casing (12) open at one end (12c), designed to contain a depilation wax package (16) and provided with resistive means (22) for warming and smelting the wax contained in the package (16), **characterized in that** it comprises ejection means (30) of said package (16) from said casing (12).

2. A wax-warmer according to claim 1, **characterized in that** said ejection means (30) comprises an ejector (32) movable between two positions, a first position called inoperative wherein it does not operate on the wax package (16) and a second position called operative wherein acting on the wax package (16) allows a partial extraction of the package (16) from the casing (12).

3. A wax-warmer according to claim 2, **characterized in that** said ejection means consists of a manual-operated ejection device (30) wherein changing from the inoperative position of the ejector (32) to the operative one is done by means of a manual operation.

4. A wax-warmer according to claim 3, **characterized in that** it comprises elastic means (50) which are not elastically stressed in said first or inoperative position of the ejector (32) whereas they are elastically stressed in said second or operative position of the ejector (32), so that the manual operation of ejecting the wax package (16) is constrained by the elastic reaction of said elastic means (50) so that, when the manual operation is terminated and the package (16) is ejected, said elastic means (50) returns the ejector (32) in the inoperative position.

5. A wax-warmer according to claim 4, **characterized in that** said elastic means comprise at least a helicoidal spring (50) which is stressed under compression.

6. A wax-warmer according to claim 4, **characterized in that** said elastic means comprise at least a helicoidal spring which is stressed under tension.

7. A wax-warmer according to one of the previous claims, **characterized in that** said casing (12) comprises a small window (60) to check the wax level contained inside the package (16), so as to substitute the package when the wax contained therein is exhausted.

8. A wax-warmer according to claim 7, **characterized in that** said small window (60) is transparent and resistant to at least 60°C.

9. A wax-warmer according to claim 8, **characterized in that** said small window (60) is substantially rectangular shaped.

10. A wax-warmer according to any of the previous claims, **characterized in that** said resistive means consist of at least an electric resistance (22) with a positive coefficient temperature namely of the PTC type.

Patentansprüche

1. Wachs-Erwärmer für die Epilation mit einem an einem Ende offenen Gehäuse (12), das ein Epilierwachspäckchen (16) aufnehmen kann, und außerdem mit Heizwiderstandsmitteln (22) zum Erwärmen und Schmelzen des in dem Päckchen (16) vorhandenen Wachses, **dadurch gekennzeichnet, dass** er Mittel (30) zum Ausstoßen des Päckchens (16) aus dem Gehäuse (12) aufweist.

2. Wachs-Erwärmer nach Anspruch 1, **dadurch gekennzeichnet, dass** die Ausstoßmittel (30) einen zwischen zwei Positionen beweglichen Ejektor (32) aufweisen, nämlich einer ersten Stellung oder Ruhestellung, in welcher er nicht auf das Wachspäckchen (16) einwirkt, und einer zweiten Stellung oder Betriebsstellung, in der er auf das Wachspäckchen (16) einwirkt und so ein teilweises Herausziehen des Wachspäckchens (16) aus dem Gehäuse (12) ermöglicht.

3. Wachs-Erwärmer nach Anspruch 2, **dadurch gekennzeichnet, dass** die Ausstoßmittel (30) manuell betätigbar sind, wobei der Ejektor (32) manuell aus der Ruhestellung in die Betriebsstellung gebracht wird.

4. Wachs-Erwärmer nach Anspruch 3, **dadurch gekennzeichnet, dass** er elastische Mittel (50) aufweist, die in der ersten Stellung oder Ruhestellung des Ejektors (32) nicht elastisch beansprucht sind, wohingegen sie in der zweiten Stellung oder Betriebsstellung des Ejektors (32) elastisch beansprucht sind, so dass der manuelle Vorgang des Ausstoßens des Wachspäckchens (16) durch die elastische Reaktion der elastischen Mittel (50) beschränkt ist, so dass, wenn der manuelle Vorgang beendet ist und das Päckchen (16) ausgestoßen ist, die elastischen Mittel (50) den Ejektor (32) in die Ruhestellung zurückführen.

5. Wachs-Erwärmer nach Anspruch 4, **dadurch gekennzeichnet, dass** die elastischen Mittel zumindest eine Schraubenfeder (50) aufweisen, die unter Kompression beansprucht wird.

6. Wachs-Erwärmer nach Anspruch 4, **dadurch gekennzeichnet, dass** die elastischen Mittel zumindest eine Schraubenfeder (50) aufweisen, die unter Spannung beansprucht wird.

7. Wachs-Erwärmer nach einem der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** das Gehäuse (12) ein kleines Fenster (60) aufweist, um zu überprüfen, wie viel Wachs sich noch in dem Päckchen (16) befindet, um dann das Päckchen (16) auszutauschen, wenn das Wachs darin verbraucht ist.

8. Wachs-Erwärmer nach Anspruch 7, **dadurch gekennzeichnet, dass** das kleine Fenster (60) transparent und bis mindestens 60 °C temperaturbeständig ist.

9. Wachs-Erwärmer nach Anspruch 8, **dadurch gekennzeichnet, dass** das kleine Fenster (60) im wesentlichen rechteckig ist.

10. Wachs-Erwärmer nach einem der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** das Heizwiderstandsmittel aus zumindest einem elektrischen PTC-Widerstand (22) mit einem positiven Temperaturkoeffizienten besteht.

Revendications

1. Appareil pour chauffer de la cire à épiler, du type comprenant un boîtier (12) ouvert à une extrémité (12c), conçu pour contenir un emballage ou cartouche (16) de cire à épiler, et muni de moyens à résistance (22) pour chauffer et faire fondre la cire contenue dans l'emballage (16),
caractérisé en ce qu'
il comprend des moyens d'éjection (30) pour éjecter l'emballage (16) du boîtier (12).

2. Appareil pour chauffer de la cire à épiler selon la revendication 1,
caractérisé en ce que
les moyens d'éjection (30) comprennent un éjecteur (32) pouvant se déplacer entre deux positions, à savoir une première position, appelée position inactive, dans laquelle il n'agit pas sur l'emballage de cire (16), et une seconde position, appelée position active, dans laquelle le fait d'agir sur l'emballage de cire (16) permet une extraction partielle de l'emballage (16) pour le faire sortir du boîtier (12).

3. Appareil pour chauffer de la cire à épiler selon la

revendication 2,
caractérisé en ce que
les moyens d'éjection consistent en un dispositif d'éjection actionné manuellement (30), dans lequel le passage de la position inactive de l'éjecteur (32) à la position active de celui-ci, est produit par une opération manuelle.

4. Appareil pour chauffer de la cire à épiler selon la revendication 3,
caractérisé en ce qu'
il comprend des moyens élastiques (50) qui ne sont pas chargés élastiquement dans la première position ou position inactive de l'éjecteur (32) tandis qu'ils sont chargés élastiquement dans la seconde position ou position active de l'éjecteur (32), de sorte que l'opération manuelle d'éjection de l'emballage de cire (16) est contrainte par la réaction élastique des moyens élastiques (50) et que, lorsque l'opération manuelle est terminée et lorsque l'emballage (16) est éjecté, les moyens élastiques (50) ramènent l'éjecteur (32) dans la position inactive.

5. Appareil pour chauffer de la cire à épiler selon la revendication 4,
caractérisé en ce que
les moyens élastiques comprennent au moins un ressort hélicoïdal (50) qui est chargé en compression.

6. Appareil pour chauffer de la cire à épiler selon la revendication 4,
caractérisé en ce que
les moyens élastiques comprennent au moins un ressort hélicoïdal qui est chargé en tension.

7. Appareil pour chauffer de la cire à épiler selon l'une quelconque des revendications précédentes,
caractérisé en ce que
le boîtier (12) comprend une petite fenêtre (60) pour vérifier le niveau de la cire contenue dans l'emballage (16), de manière à remplacer cet emballage lorsque la cire qu'il contient est vidée.

8. Appareil pour chauffer de la cire à épiler selon la revendication 7,
caractérisé en ce que
la petite fenêtre (60) est transparente et résiste à une température d'au moins 60°C.

9. Appareil pour chauffer de la cire à épiler selon la revendication 8,
caractérisé en ce que
la petite fenêtre (60) est de forme essentiellement rectangulaire.

10. Appareil pour chauffer de la cire à épiler selon l'une quelconque des revendications précédentes,
caractérisé en ce que
les moyens à résistance consistent en au moins une résistance électrique à coefficient de température positif (22), c'est-à-dire du type CTP (Coefficient de Température Positif).

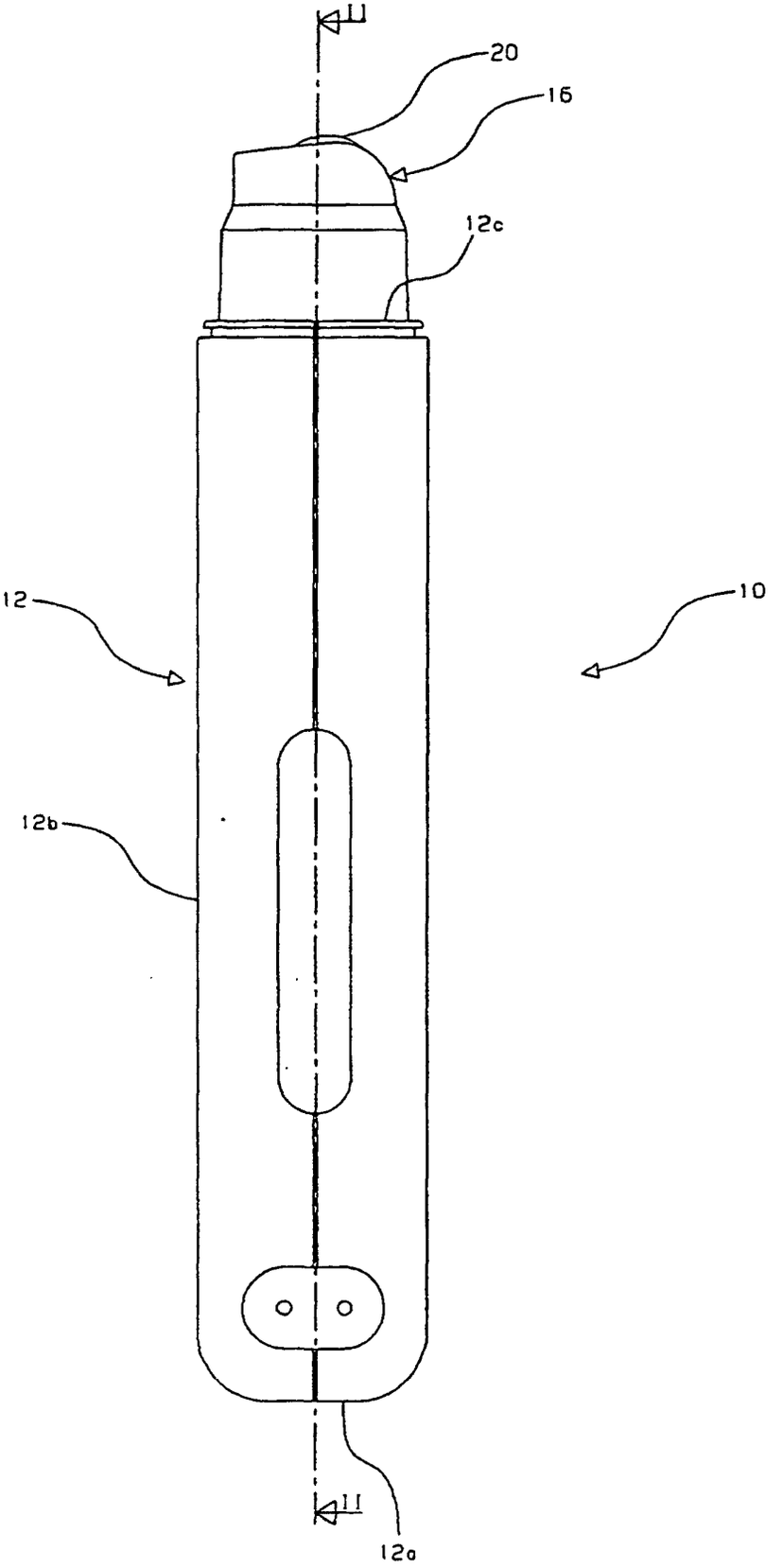


Fig.1

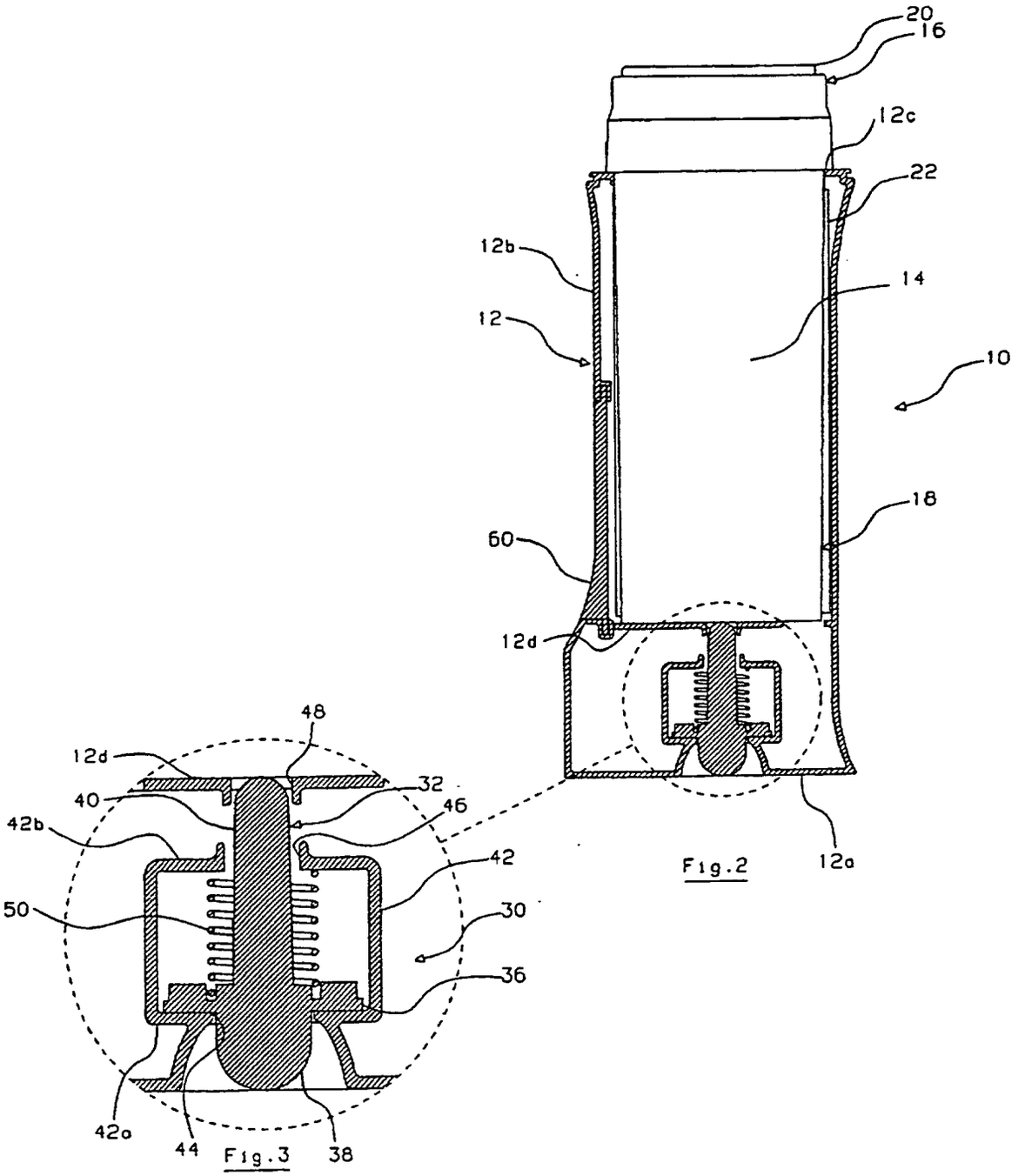

20
16
12c
22
12b
14
12
10
18
60
12d
12a
48
12d
32
40
46
42b
42
50
30
36
42a
44
38

Fig.2

Fig.3

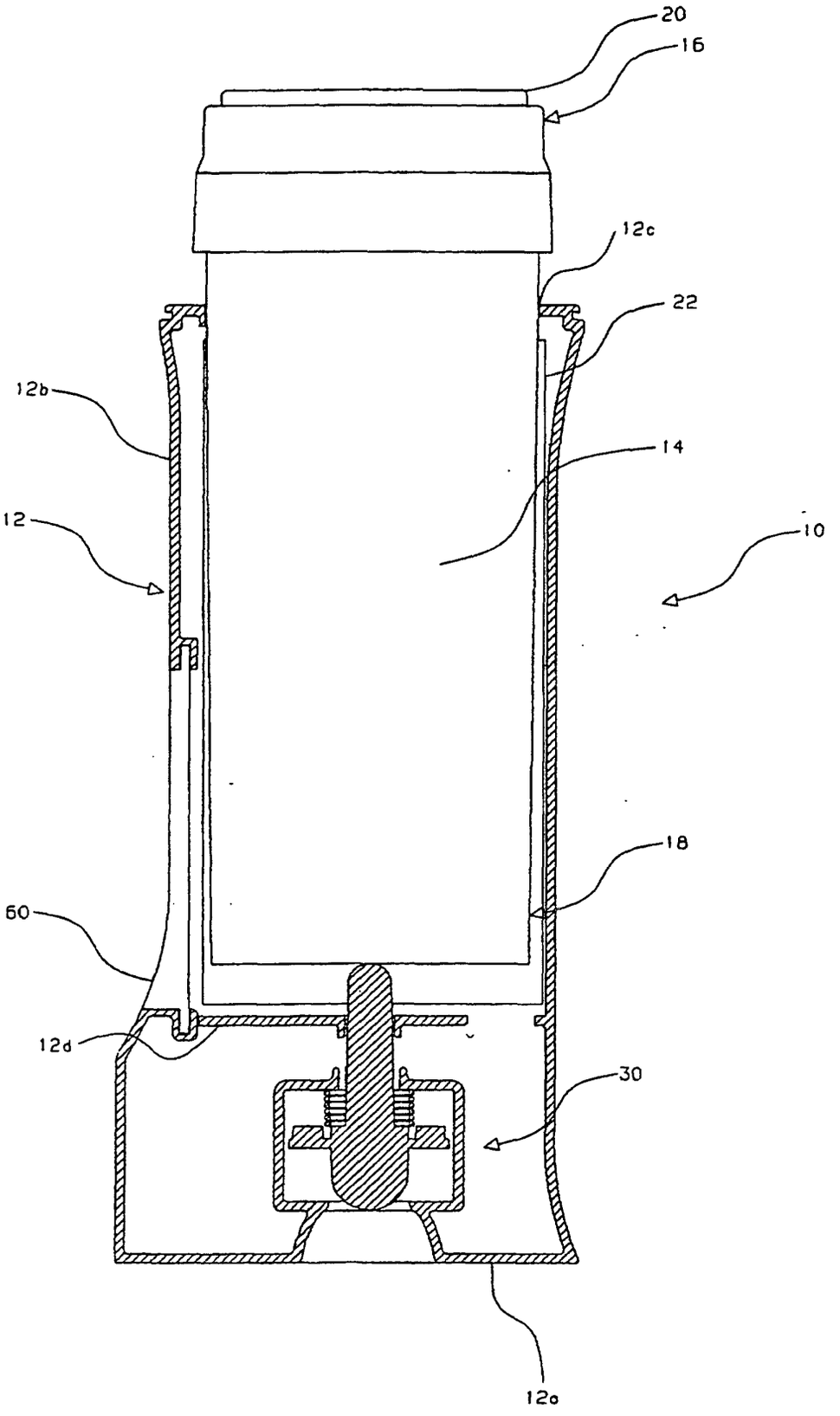


Fig.4