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54 **Bottle with double delivery device for liquids or pasters.**

57 A bottle (10) containing a liquid product to be delivered by hand pumps (14, 16) is provided with two independently operable delivery devices, each of which delivers the product in a different form, for example one in the form of spray and the other in atomized form.

The bottle can be divided into two non-commu-
nicating compartments each containing a different
liquid or paste product, a different delivery device
being connected to each compartment.

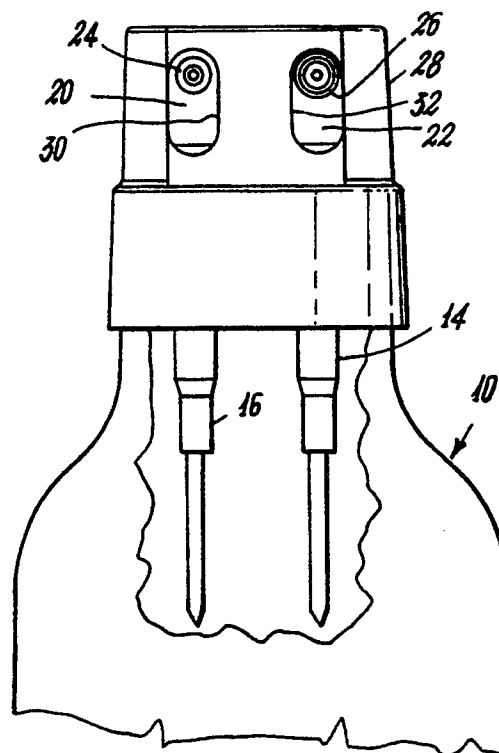


Fig. 1

BOTTLE WITH DOUBLE DELIVERY DEVICE FOR LIQUIDS OR PASTES

This invention relates to bottles containing liquid or paste products to be delivered by delivery devices comprising a hand pump of known type.

The delivery device is usually fixed to the bottle mouth by a ring which is screwed or snap-fitted onto said mouth. The hand pump of the delivery device is fixed to said ring and dips into the liquid or paste contained in the bottle.

The pump operating stem projects to the outside and carries on its top a delivery knob which comprises a delivery nozzle from which a certain quantity of liquid or paste merges when the delivery knob is pressed.

If the substance to be delivered is a liquid the delivery nozzle can be formed in such a manner as to produce simple sprays or an atomized jet.

Ladies' hairdressers often need to spray hairspray onto particular zones of the hair but to cover other zones of the hair with atomized hairspray.

This currently requires the use of two bottles of hairspray, one provided with a spray-producing delivery device and the other with a delivery device able to atomize the hairspray. To obtain the required result the hairdresser has therefore to continuously alternate between the two said bottles, with the possibility of confusing the two bottles by mistake. As can be imagined, this represents a considerable complication which substantially lengthens the time required to complete the hairstyle.

Similar requirements can arise in other fields, for example where it is required to alternately use two bottles which deliver the same liquid product but in different forms of delivery, or two bottles containing two different products to be delivered.

The object of the present invention is to obviate the aforesaid drawbacks and therefore obtain a consistent time saving in carrying out the relative operations, and with increased comfort for the user.

Said object is attained by the bottle according to the invention, containing a liquid product to be delivered by delivery devices comprising a hand pump, characterised by being provided with two different independently operable delivery devices, each of which delivers said product in a different form. One delivery device can for example be provided with a spray nozzle while the other delivery device can be provided with an atomizer nozzle.

According to a further aspect of the present invention, the bottle is characterised by being divided into two non-communicating compartments each containing a different liquid or paste product, each compartment being connected to a different delivery device, which is operable independently of the other delivery device. In this case, if allowed by

the type of product contained in each compartment, the two delivery devices can have delivery nozzles of either the same type or different type.

Conveniently the same ring can carry both delivery devices, which must however be operable independently.

Considering again the case of the ladies' hairdresser, by virtue of the present invention a single bottle can now suffice, with obvious advantages in terms of time and practicality.

The two delivery knobs are conveniently of different colour to prevent confusion in using the bottle.

One example of the use of the bottle according to the invention where two different substances are to be delivered and the bottle is therefore divided into two non-communicating compartments is the case in which one compartment contains skin cream for day use while the other contains night cream.

The bottle according to the invention can be used in many other fields besides those stated, for example to deliver two different food creams. Other uses can be easily imagined by the reader.

The invention will be more apparent from the description of one embodiment thereof given hereinafter by way of example only. In the description reference is made to the accompanying drawing in which:

Figure 1 is a front view of the upper part of a bottle with a double delivery device according to the invention, a side of the bottle being partially removed to show the two internal pumps;

Figure 2 is a plan view of the bottle delivery device alone; and

Figure 3 is a vertical section through the delivery device on the line III-III of Figure 2.

From the figures it can be seen that the bottle 10, of which only the upper part is shown, has an externally threaded mouth (not visible in the figures) onto which there is screwed an internally threaded ring 12 in the shape of an inverted cup, carrying fixed to its horizontal wall two hand pumps 14 and 16 of well known type disposed vertically parallel to the axis of the bottle 10. The pumps 14 and 16 are fixed to the ring 12 by a well known snap-fixing device.

The operating stem for each of the two pumps 14 and 16 (the stem 18 of the pump 16 is visible in Figure 3) projects vertically upwards. Each stem carries a delivery knob 20 and 22 which comprises a relative delivery nozzle 24 and 26 respectively, the first, 24, being an atomizer while the second, 26, is sprayer. A fixed cap 28 is snap-fitted onto the ring 12 (see Figure 3) to surround it and also

partially surround the two delivery knobs 20, 22, which can be operated through a large upper aperture. The cap 28 provides protection against unintentional operation of the delivery knobs. The cap 28 also comprises two oval apertures 30 and 32 through which the spray generated by the sprayer 24 and the atomized jet produced by the atomizer 26 respectively pass.

In addition to the fixed cap 28, a further dust-protection cap (not shown) of known type can be provided. This latter will normally be present even if the fixed cap 28 is absent.

The described bottle with double delivery device is suitable for example for containing hairspray and can be used by ladies' hairdressers for the purposes initially described. For this purpose it is provided with a first device comprising a sprayer and a second device comprising an atomizer.

The two said delivery devices can also deliver different substances if the bottle is divided vertically into two non-communicating compartments each containing a different substance, each of the two compartments being connected to a relative delivery device. In this manner one compartment can contain a liquid to be atomized by an atomizer forming part of the relative delivery device while the other compartment can contain a cream delivered by a delivery nozzle of the relative delivery device. According to a further modification of the present invention a bottle is again divided into two compartments containing two different substances, the delivery devices however being of the same type, ie both provided with a spray nozzle or an atomizer nozzle or a delivery nozzle for paste or cream.

This latter embodiment can be usefully used for delivering two different types of skin cream, for example a day cream and a night cream, both contained in the same bottle but in two different compartments.

If the bottle comprises two compartments, the ring cannot be screwed onto the bottle mouth but must instead be fixed thereon by a different connection device which does not require the ring to be rotated, for example by a known snap-fitting device.

vided with an atomizer nozzle.

3. A bottle for products in liquid or paste form to be delivered by hand pumps, characterised by being divided into two non-communicating compartments each containing a different product, each compartment being connected to a different delivery device, which is operable independently of the other delivery device.

4. A bottle as claimed in claim 3, characterised in that, if allowed by the type of product contained in each compartment, the two delivery devices have delivery nozzles of the same type.

5. A bottle as claimed in claim 4, characterised in that both products to be delivered are in the form of paste or cream, the two relative delivery devices having a delivery nozzle or the type suitable for delivering pastes or creams.

6. A bottle as claimed in any one of the preceding claims, characterised in that the two delivery devices are protected against accidental operation by a single removable cap.

7. A bottle as claimed in any one of claims 1 to 5, characterised in that the two delivery devices are protected against accidental operation by a single fixed cap (28) comprising apertures (34) to allow manual operation of the delivery devices, and apertures (30, 32) to allow the product delivered by the delivery nozzles to escape to the outside.

Claims

1. A bottle (10) containing a liquid product to be delivered by hand pumps (14, 16), characterised by being provided with two different independently operable delivery devices, each of which delivers said product in a different form.

2. A bottle as claimed in claim 1, characterised in that one delivery device is provided with a spray nozzle (26) while the other delivery device is pro-

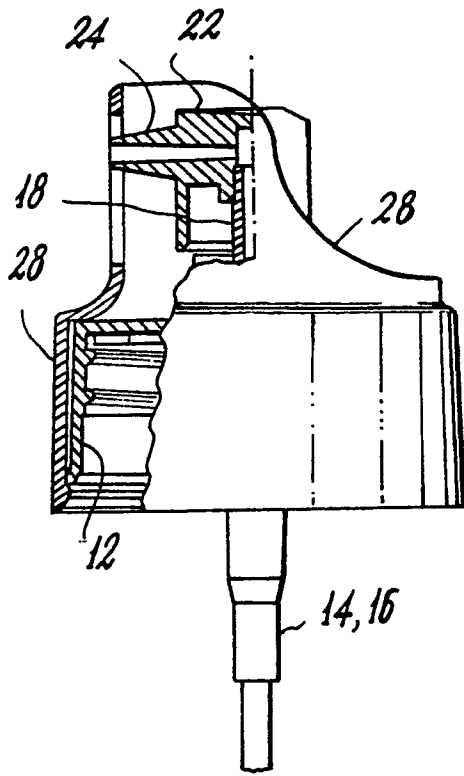


Fig. 3

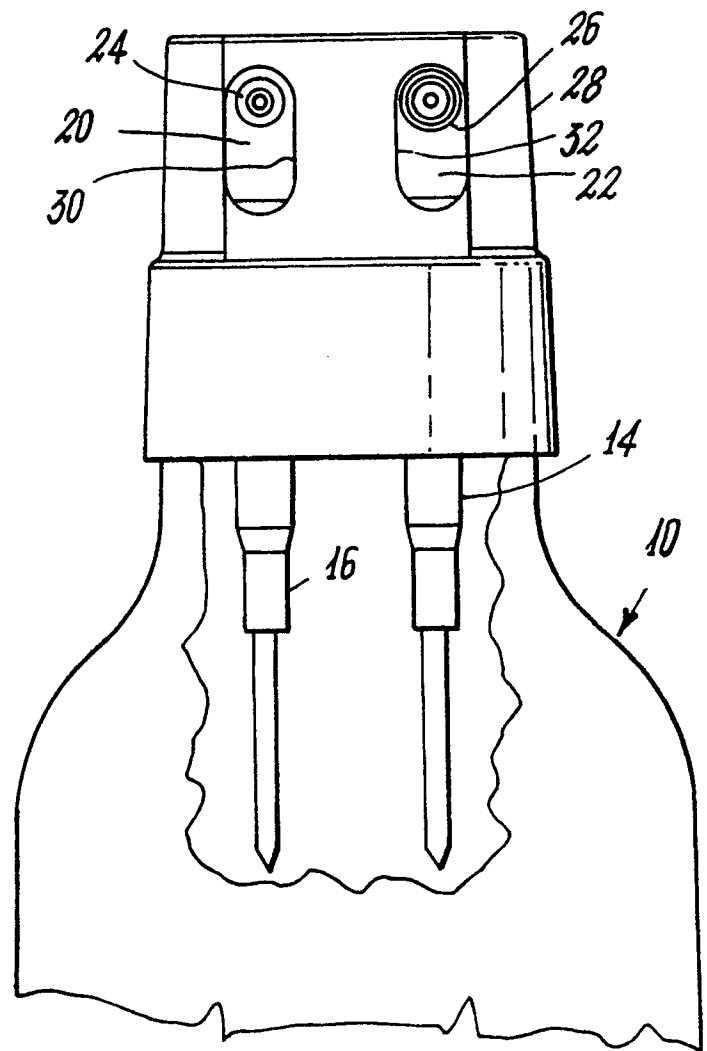


Fig. 1

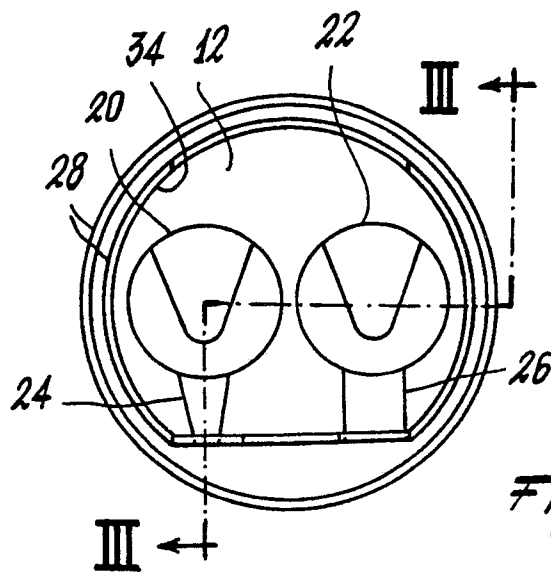


Fig. 2



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
A	DE-A-1 926 796 (J.-P. DUDIUYT et al.) * page 1, paragraph 2 - page 3, paragraph 4; figures 1,11 * ---	1	B 65 D 83/14
A	BE-A- 696 840 (A.A.F. VAN BEIRS) * claim 1; figures 1,2 * -----	3	
			TECHNICAL FIELDS SEARCHED (Int. Cl.4)
			B 65 D B 05 B
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 30-04-1990	Examiner SMITH C A
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			