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(54) **Material dispenser and dispenser device therefor.**

(57) A cosmetics dispenser comprises a container (1), a first sleeve (12) fixed in the container and having a helical groove (15), and a second sleeve (7) rotatable in the first sleeve and having a plurality of axial slots (9). A cover (5) is mounted in the second sleeve and rests on the contents of the container. The cover has spigots (10) which engage through the slots (9) with the groove (15). The cover also has a central opening (6). Thus, upon rotation of the second sleeve by a manually rotatable flange (11), the cover is moved downwardly within the container and cosmetics material is thus forced up through the opening (6).

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MATERIAL DISPENSER AND DISPENSER DEVICE THEREFOR

5 This invention relates to a material dispenser, and particularly, but not exclusively, to a dispenser for a creamy, paste-like or viscous cosmetics product. The invention also relates to a dispenser device to be fitted to a container.

10 Thick creamy cosmetics products, such as cold cream, are commonly supplied in wide-necked pots or jars. The user simply removes the lid of the jar and scoops out the required amount of the product using a finger or fingers. This procedure is not only messy, but is also uneconomical as the user will often scoop out
15 more material than is actually required.

The present invention aims to provide an improved material dispenser and device which overcome these problems.

20 In accordance with one aspect of the invention there is provided a dispenser for a creamy, paste-like or viscous material, comprising a rigid-wall container for the material and dispensing means in which an
25 apertured element is disposed so as to cover a quantity of said material in the container, and in

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which manually operable means is provided for forcing material from said quantity through the aperture or apertures in said member onto an outer face thereof from which said material can be removed.

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The apertured element may be in the form of a disc which forms part of a dispensing device fitted into the neck of the container. Other elements of this device cooperate so as to force the disc onto the material accommodated within the container beneath the disc, thereby forcing the material by hydraulic pressure to ooze through an aperture formed at the centre of the disc. These elements may include a manually rotatable annular flange disposed at the mouth of the container neck, and a mechanism by which rotation of this flange drives the apertured disc downwardly relative to the quantity of material disposed beneath the disc.

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In the disclosed embodiment, the flange is attached to, or integrally formed with a guide tube which projects downwardly into the container and which is formed with a plurality of circumferentially spaced and axially extending slots. The disc is a close-fit within this guide tube, and is formed with a plurality of radially outwardly projecting spigots which extend

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through the slots in the guide tube into respective helical grooves formed in the inner surface of an outer sleeve in which the guide tube is coaxially and rotatably fitted, this grooved sleeve being rotationally fixed relative to the container neck. With this arrangement, rotation of the flange and the slotted guide tube causes the disc to rotate, and because of the engagement of the spigots of the disc in the helical grooves of the fixed sleeve, the disc is also driven in an axial direction.

Means may be provided to indicate to the user increments of axial movement of the apertured member relative to the quantity of material, thereby permitting preset amounts of the material to be delivered through the aperture or apertures. This latter means may take the form of a ratchet mechanism indicating increments of rotation of the aforesaid manually rotatable flange. This ratchet mechanism may further be adapted for one-way rotation, thereby ensuring that the apertured disc can be moved only in the material-dispensing direction.

According to the invention there is also provided a dispenser device adapted to be fitted to a container for dispensing a creamy, paste-like or viscous

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material contained in the container, the device having
an apertured cover member for covering the material,
and a member adapted to be movably mounted relatively
to the container, said member having a portion which,
5 when the device is fitted to the container, is
disposed so that it can be manually engaged and moved,
the device including an element which is coupled to be
moved in response to movement of said member to press
on the material and force some of it through the
10 aperture or apertures in said cover member onto an
outer face thereof.

In the illustrated embodiment the presser element and
the apertured cover are one and the same component and
15 comprise an apertured disc fitted within a cylindrical
guide tube constituting the movable member, and
arranged to move axially therein in response to
rotation of such tube. This tube has at its end which
will project from an opening of the container, a
20 manually engageable annular flange by which it can be
rotated about its axis. To produce the axial movement
of the disc, the guide tube may be formed with axially
extending slots through which circumferentially spaced
radially projecting spigots formed at the periphery of
25 the disc, project, outer portions of such spigots
being located in respective helical slots formed in a

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cylindrical wall of the container, or formed in an outer attachment tube, also part of the device, fixed within the container.

5 The accompanying drawing is a longitudinal section through a container for dispensing a cosmetic product in accordance with the invention.

10 The illustrated dispensing container comprises a rigid-walled hollow body portion 1 for containing a quantity of the product 2 and having an externally screw-threaded neck 3. A cap 4 is formed with internal-screw-threading complementary to the screw-threading on the neck 3. A dispensing mechanism
15 disposed within the container body 1 includes a disc 5 which contacts and covers over the top of the material 2 and which is arranged to be driven downwardly onto the material. This disc is formed with an aperture in the form of a central slot 6 through which material is
20 forced upwardly when the disc is forced downwardly.

The disc is fitted within an inner guide tube 7, the circumference of the disc forming a sealing engagement
8 with the inner cylindrical surface of this guide
25 tube. The guide tube 7 is formed with a number of circumferentially spaced elongate axially extending

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slots 9 (through one of which the section of the drawing passes), and a corresponding plurality of radially extending spigots 10 formed at circumferentially spaced points on the circumference of the disc extend outwardly through these slots 9. The guide tube 7 is formed at its upper end with a manually engageable outwardly extending flange 11 which sits on top of the mouth of the neck 3. A cylindrical attachment tube 12 is fixedly located within the container; in this embodiment, the container is formed with a cylindrical bore within which this attachment tube force-fits. The upper end of this attachment tube is formed with an outwardly projecting annular sealing flange 13 which fits in an internal annular rebate 14 formed in the container neck. The inner cylindrical surface of the attachment tube 12 has a number of helical grooves 15 formed so as to receive the outermost portions of respective ones of the radially projecting spigots of the disc 5. The number of spigots, slots and helical grooves is such as to ensure that the disc 5 remains properly and stably positioned within the guide tube 7 as it moves axially. For the sake of clarity, only one of these grooves is shown in the drawing.

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The disc is initially positioned at the top of the

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guide tube, and the whole of the space defined beneath the disc by the base surface 16 of the container and the inner cylindrical surface of the guide tube 7 is filled with the creamy, paste-like or viscous cosmetics material 2. To dispense a limited amount of this material after removing the cap 4, the user will grip the outer edge of the flange 11, which may be ribbed or knurled for this purpose, and will rotate it relative to the body 1 of the container. Accordingly, the guide tube 7 will be rotated, and the disc 5 will thereby be forced to rotate by virtue of the engagement of its spigots with the edges of the slots 9 in the guide tube. Such rotation of the disc will cause the spigots to move along the respective helical grooves 15, so causing the disc to move axially within the guide tube.

As mentioned earlier, such axial movement of the disc will create hydraulic pressure within the mass of the material 2, which pressure forces an amount of the material upwardly through the slot 6. The volume of the amount so delivered onto the upper face of the disc corresponds with the amount by which the volume of the space beneath the disc is reduced by the downward movement of the disc.

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The user can readily remove the material now lying on top of the disc using a finger or suitable applicator, and in this way the need to insert the finger or the applicator into the mass of the material within the container, as was hitherto necessary with the conventional pot-type container, is obviated, and a much cleaner and better regulated procedure for dispensing the material is provided.

It will be appreciated that the amount of axial movement of the disc, and thereby the amount of material delivered through the slot onto the upper side of the disc, will depend upon the amount by which the flange 11 is rotated. For strict regulation of the amount of the delivered material, some means (not shown) may be provided for indicating to the user equal increments of rotation of the flange 11. For example, a ratchet mechanism between the flange 11 and the neck of the container may provide clicks which can be felt by the user when rotating the flange and which indicate these equal increments of rotation.

Preferably, the arrangement is such as to ensure that the flange 11 can be rotated only in the direction which causes downward movement of the disc. The above-mentioned ratchet mechanism may be adapted to

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provide this one-way rotation of the flange and guide tube.

5 Although in the above described embodiment, the mechanism for driving the disc includes an outer attachment tube 12 fixed in the container, it is possible to simplify the construction of the driving mechanism by dispensing with such attachment tube and forming the helical grooves in the inner cylindrical wall 17 of the container itself.

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15 Furthermore, it is not essential to arrange for the apertured disc to move. It would, for example, be possible to arrange the disc in an axially fixed positioned adjacent the top of the container (e.g. fixed to or integral with the flange 11) and to provide a solid disc which is initially positioned adjacent the base surface 16 of the container and which is driven upwardly by the relative rotation of the guide tube 7 and the attachment tube 12 (or the inner wall of the container) so as to push the bulk of the cosmetics material upwardly, causing the required quantity of the material to be forced through the slot in the axially fixed upper disc.

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Also, it would of course be possible to form helical

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slots in the guide tube and elongate grooves in the attachment tube or cylindrical container wall surface; in this case the disc would be held rotationally fixed relative to the container, and its peripheral edge would slide both longitudinally and rotationally against the inner surface of the guide tube.

CLAIMS

5 1. A dispenser for a creamy, paste-like or viscous material, comprising a rigid-walled container (1) for the material and dispensing means in which an apertured element (5) is disposed so as to cover a quantity (2) of said material in the container, and in which manually operable means (11) is provided for forcing material from said quantity through the aperture or apertures in said member onto an outer face thereof from which said material can be removed.

10 2. A dispenser as claimed in claim 1, wherein the apertured element is in the form of a disc (5) which forms part of a dispensing device fitted into a neck (14) of the container.

15 3. A dispenser as claimed in claim 2, wherein the dispensing device has elements which cooperate so as to force the disc onto the material accommodated within the container beneath the disc, thereby forcing the material by hydraulic pressure to ooze through an aperture formed at the centre of the disc.

20 4. A dispenser as claimed in claim 3, wherein the

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elements of the dispensing device include a manually rotatable annular flange (11) disposed at the mouth of the container neck, and a mechanism (7, 12) by which rotation of this flange drives the apertured disc downwardly relative to the quantity of material disposed beneath the disc.

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5. A dispenser as claimed in claim 4, wherein the flange is attached to, or integrally formed with, a guide tube (7) which projects downwardly into the container and which is formed with a plurality of circumferentially spaced and axially extending slots (9), the disc being a close-fit within this guide tube, and being formed with a plurality of radially outwardly projecting spigots (10) which extend through the slots in the guide tube into respective helical grooves (15) formed in the inner surface of an outer sleeve (12) in which the guide tube is coaxially and rotatably fitted, this grooved sleeve being rotationally fixed relative to the container neck.

6. A dispenser as claimed in any preceding claim, including means to indicate to the user increments of axial movement of the apertured member relative to the quantity of material, thereby permitting preset

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amounts of the material to be delivered through the aperture or apertures.

5 7. A dispenser as claimed in claim 4 or 5 and claim 6, wherein the indicating means comprises a ratchet mechanism for indicating increments of rotation of the manually rotatable flange.

10 8. A dispenser as claimed in claim 7, wherein the ratchet mechanism is adapted for one-way rotation, thereby ensuring that the apertured disc can be moved only in the material-dispensing direction.

15 9. A dispenser device adapted to be fitted to a container for dispensing a creamy, paste-like or viscous material contained in a container, the device having an apertured cover member (5) for covering the material, and a member (7) adapted to be movably mounted relatively to the container, said member
20 having a portion (11) which, when the device is fitted to the container, is disposed so that it can be manually engaged and moved, the device including an element which is coupled to be moved in response to movement of said member to press on the material and
25 force some of it through the aperture or apertures in said cover member onto an outer face thereof.

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10. A device according to claim 9, wherein the presser element and the apertured cover are one and the same component and comprise an apertured disc (5) fitted within a cylindrical guide tube (7) constituting the movable member, and arranged to move axially therein in response to rotation of such tube.

11. A device according to claim 10, wherein the tube has at its end which will project from an opening of the container, a manually engageable annular flange (11) by which it can be rotated about its axis.

12. A device according to claim 10 or 11, wherein in order to produce the axial movement of the disc, the guide tube is formed with axially extending slots (9) through which circumferentially spaced radially projecting spigots (10) formed at the periphery of the disc project, outer portions of such spigots being located in respective helical slots (15) formed in a cylindrical wall of the container, or formed in an outer attachment tube, also part of the device, fixed within the container.

