

CLAIMS

1. A refillable dispenser for viscous compositions comprising:
 - 5 a bottle having walls defining an upper cavity and a lower cavity;
 - a viscous composition refill mechanism configured to allow viscous composition to enter said upper cavity when said refill mechanism is fluidly coupled to a viscous composition source;
 - a viscous composition dispensing mechanism configured to allow
10 viscous composition to be dispensed from said upper cavity to outside the bottle when the dispensing mechanism is actuated;
 - a gasket configured to substantially seal said upper cavity from said lower cavity wherein said gasket is capable of moving towards the upper cavity upon actuation of the dispensing mechanism and moving towards
15 the lower cavity upon entrance of the viscous composition into said upper cavity.
2. The refillable dispenser of claim 1, wherein the refill mechanism extends throughout the gasket to the upper cavity.
3. The refillable dispenser of claim 2, the refill mechanism comprising a tube
20 extending into the upper cavity.
4. The refillable dispenser of claim 2, the refill mechanism directly extending into the upper cavity.
5. The refillable dispenser of any one of claims 1 to 4, wherein the refill mechanism comprises a check-valve.
- 25 6. The refillable dispenser of any one of claims 1 to 4, wherein the dispensing mechanism comprises a check valve.

7. The refillable dispenser of any one of claims 1 to 4, wherein the refill mechanism and the dispensing mechanism each comprise a check-valve.
8. A kit comprising: the refillable dispenser of any one of claims 1 to 4 and at least one adapter, the adapters each configured to allow sealingly and fluidly coupling a non-refillable dispenser for viscous compositions with the refill mechanism of the refillable dispenser.
9. A kit comprising: the refillable dispenser of any one of claims 1 to 4 and a non-refillable dispenser for viscous compositions, the refillable dispenser and a non-refillable dispenser sealingly and fluidly coupleable thereto.
10. The kit of claim 9, wherein the non-refillable dispenser is substantially larger than the refillable dispenser.
11. The dispenser of claim 4, wherein the gasket is sealingly sleeved on the tube and in the bottle.
12. The dispenser of claim 1 or 2, further comprising a sealing ring situated between the refill mechanism and outside the dispenser.
13. The dispenser of claim 1 or 2, wherein the walls are rigid, configured to allow making a negative air pressure in the upper cavity, the negative pressure thereby facilitating filling of the upper cavity with the viscous composition.
14. The dispenser according to claim 12, characterized in that there is essentially no take up of air in the upper cavity in compensation for the viscous composition dispensed.
15. The dispenser according to claim 12, characterized in that the dispensing mechanism comprises a vent hole that is arranged to compensate for dispensed viscous composition with air.
16. The dispenser according to claim 14, characterized in that the dispensing mechanism is mounted on the body in a storage position in which the vent

hole is closed off, said dispensing mechanism being movable with respect to the body in a dispensing position which said vent hole is free to enable air to be taken up.

17. The dispenser according to claim 12, characterized in that the refill mechanism is covered reversibly by a sealing cap.
18. The dispenser according to claim 12, characterized in that the refill mechanism has a seat that is movable and/or deformable between a stable state of sealed closure of the upper cavity and a stressed state of putting a non-refillable dispenser in communication with said upper cavity.
19. The dispensing bottle according to claim 12, characterized in that the refill mechanism is disposed on a lower end of the bottle.
20. The dispenser of claim 1 or 2, wherein:
21. A dispensing device comprises a dispensing pump actuatable by means of a push button, the push button mounted on a nozzle of the pump, the push button comprising an upper region enabling exertion of finger pressure on said push button in order to be able to move said button axially, thereby actuating the pump, the pump comprising:
- a body equipped with a plunger tube disposed in the upper cavity, said tube being equipped with a valve for admitting the viscous material into the pump;
 - a piston mounted around said nozzle in order to delimit a metering chamber in the body; the piston enabling supply orifices of the nozzle to open--or respectively close--over a dispensing--or respectively suction--travel of said nozzle;
 - an extender within the body;
 - a spring in abutment with a bottom of the extender,

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return of the push button over its suction travel being effected by
a spring in said pump.

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1. A refillable dispenser for viscous compositions comprising:
 - a bottle having walls defining an upper cavity and a lower cavity;
 - a viscous composition refill mechanism configured to allow viscous composition to enter said upper cavity when said refill mechanism is fluidly coupled to a viscous composition source;
 - a viscous composition dispensing mechanism configured to allow viscous composition to be dispensed from said upper cavity to outside the bottle when the dispensing mechanism is actuated;a gasket configured to substantially seal said upper cavity from said lower cavity wherein said gasket is capable of moving towards the upper cavity upon actuation of the dispensing mechanism and moving towards the lower cavity upon entrance of the viscous composition into said upper cavity, wherein:
 - the refill mechanism comprises a tube extending into the upper cavity;
 - the gasket is sealingly sleeved on the tube such as to allow the gasket to travel along the tube within the bottle.
2. The refillable dispenser of claim 1, wherein the refill mechanism extends throughout the gasket to the upper cavity.
3. The refillable dispenser of claim 1, the refill mechanism directly extending into the upper cavity.
4. The refillable dispenser of any one of claims 1 to 3, wherein the refill mechanism comprises a check-valve.
5. The refillable dispenser of any one of claims 1 to 3, wherein the dispensing mechanism comprises a check valve.
6. The refillable dispenser of any one of claims 1 to 3, wherein the refill mechanism and the dispensing mechanism each comprise a check-valve.

7. A kit comprising: the refillable dispenser of any one of claims 1 to 3 and at least one adapter, the adapters each configured to allow sealingly and fluidly coupling a non-refillable dispenser for viscous compositions with the refill mechanism of the refillable dispenser.
8. A kit comprising: the refillable dispenser of any one of claims 1 to 3 and a non-refillable dispenser for viscous compositions, the refillable dispenser and a non-refillable dispenser sealingly and fluidly coupleable thereto.
9. The kit of claim 8, wherein the non-refillable dispenser is substantially larger than the refillable dispenser.
10. The dispenser of claim 1 or 2, further comprising a sealing ring situated between the refill mechanism and outside the dispenser.
11. The dispenser of claim 1 or 2, wherein the walls are rigid, configured to allow making a negative air pressure in the upper cavity, the negative pressure thereby facilitating filling of the upper cavity with the viscous composition.
12. The dispenser according to claim 11, characterized in that there is essentially no take up of air in the upper cavity in compensation for the viscous composition dispensed.
13. The dispenser according to claim 11, characterized in that the dispensing mechanism comprises a vent hole that is arranged to compensate for dispensed viscous composition with air.
14. The dispenser according to claim 13, characterized in that the dispensing mechanism is mounted on the body in a storage position in which the vent hole is closed off, said dispensing mechanism being movable with respect to the body in a dispensing position which said vent hole is free to enable air to be taken up.
15. The dispenser according to claim 11, characterized in that the refill mechanism is covered reversibly by a sealing cap.
16. The dispenser according to claim 11, characterized in that the refill mechanism has a seat that is movable and/or deformable between a stable state of sealed closure of the upper cavity and a stressed state of putting a non-refillable dispenser in communication with said upper cavity.

17. The dispensing bottle according to claim 11, characterized in that the refill mechanism is disposed on a lower end of the bottle.