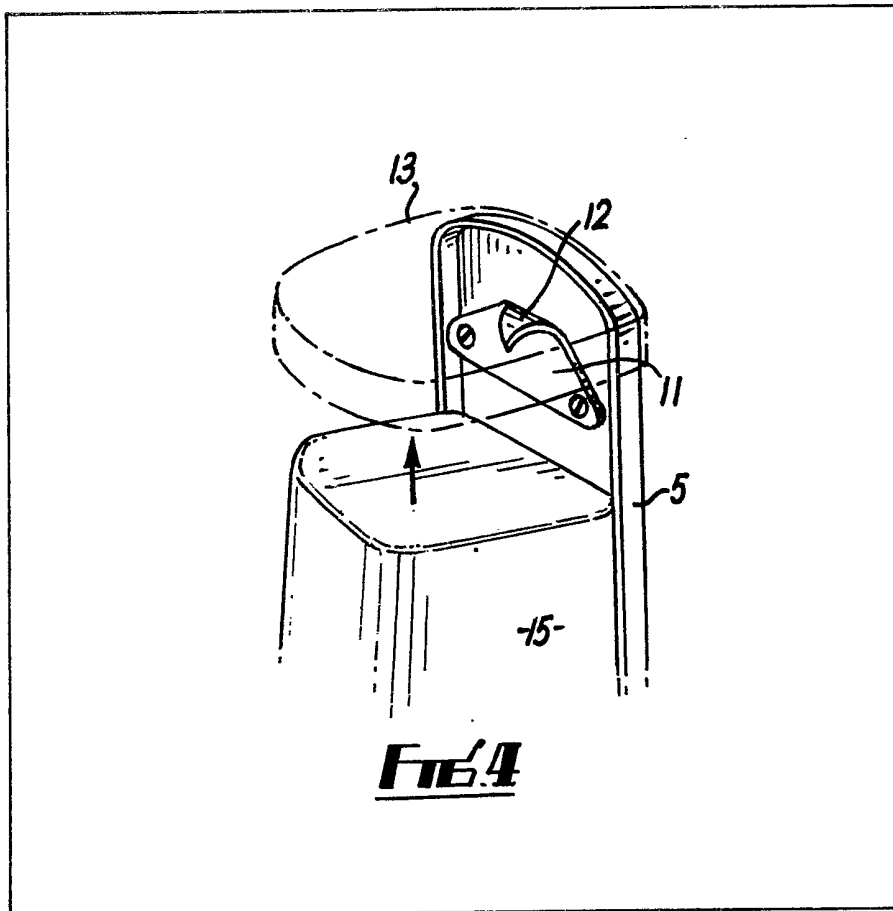


- (21) Application No **8118979**
- (22) Date of filing **19 Jun 1981**
- (30) Priority data
- (31) **8020612**
- (32) **24 Jun 1980**
- (33) **United Kingdom (GB)**
- (43) Application published **3 Feb 1982**
- (51) **INT CL³**
B67D 5/64
- (52) Domestic classification
B8N 24D7 G
- (56) Documents cited
GB 2017635A
GB 808721
EP 0002183A
- (58) Field of search
B8N
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(54) **Liquid dispenser**

(57) A dispenser comprises a mounting plate (5) by means of which the dispenser may be secured to a wall or other support and a dispensing mechanism detachably mounted on the mounting plate and adapted to receive and locate a detachable container (15) of product to be dispensed, the dispensing mechanism being fitted to a lower portion of the mounting plate and venting means in the form of a downwardly directed spike (12) or like projection being mounted towards the upper region of the mounting plate whereby on mounting the dispensing mechanism and container on the mounting plate the spike is operable to puncture the container and thereby vent same automatically during fitting of the container to the dispenser.



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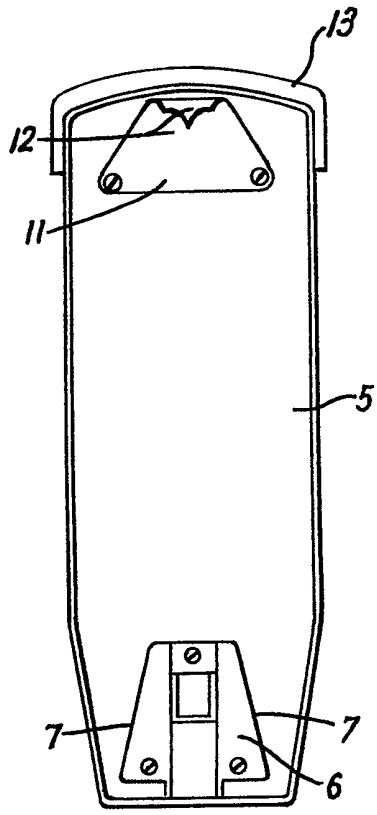


FIG. 1

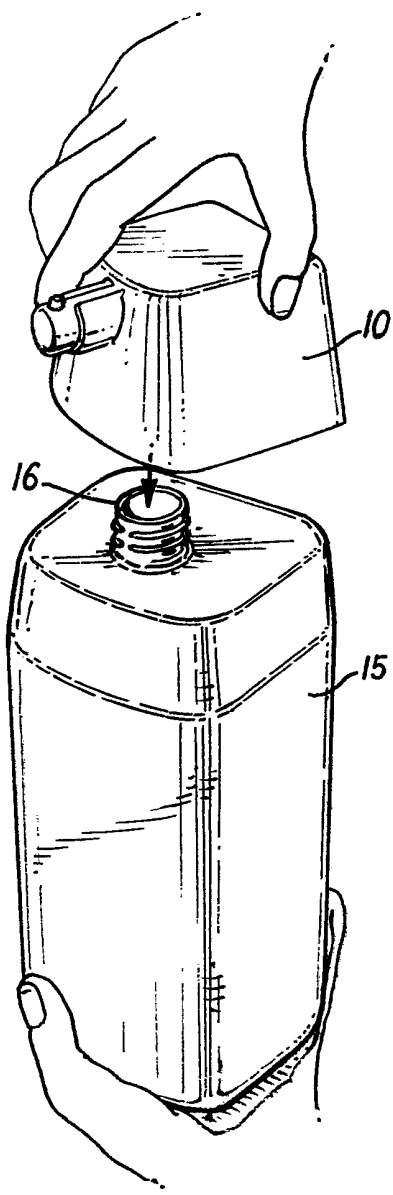


FIG. 2

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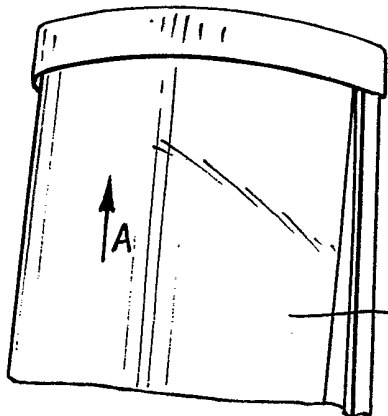


FIG. 3

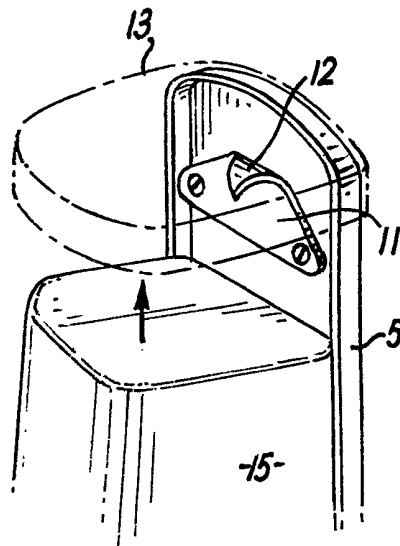
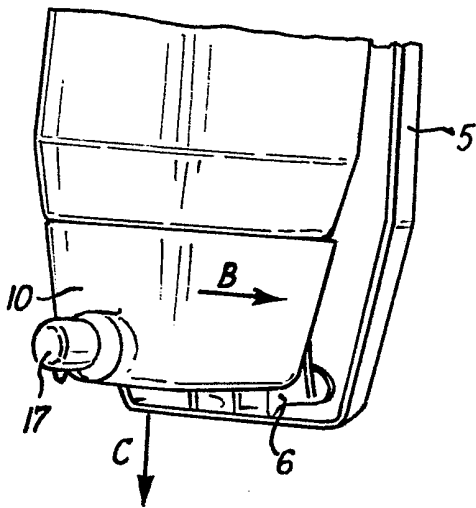


FIG. 4

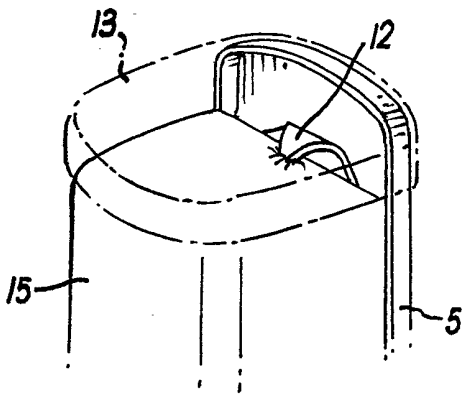


FIG. 5

SPECIFICATION

Dispensers

5 This invention relates to dispensers.

One form of dispenser for soap, hand cleansers or the like incorporates a dispensing mechanism adapted to receive a replaceable container of the product to be dispensed. When the container is empty replenishment is effected by removing the spent container and replacing it by a new container filled with the product. This has the advantage that the container may be used for transporting and storing the product before fitment to the dispensing mechanism to which it is secured in an inverted position when required.

It is a disadvantage of dispensers of this kind that the container requires to be vented to enable proper delivery of its contents and since the vent cannot be provided while the container is used for transport and storage purposes, the container requires to be punctured to provide a suitable vent when it has been fitted to the dispensing mechanism. This can readily be overlooked resulting in improper functioning of the dispenser and it is an object of the present invention to obviate or mitigate this disadvantage.

The invention provides a dispenser incorporating a dispensing mechanism means for receiving and locating a detachable container of product to be dispensed, and means operable to effect venting of the container on fitting of the same to the dispenser.

Preferably the dispenser incorporates a mounting plate by means of which it may be secured to a wall or other support, said dispensing mechanism being carried by a lower portion of said mounting plate and said venting means comprising a downwardly directed spike or like projection mounted towards the upper region of the mounting plate and operable to puncture the container on engagement therewith.

Preferably said dispensing mechanism is detachably mounted on said mounting plate and incorporates said means for receiving and locating said container, said puncturing means being disposed in a position such that it is operative to puncture the container during engagement of the dispensing mechanism and container with said mounting plate.

The dispensing mechanism is preferably engaged with the mounting plate by means of an upward movement followed by a downward locking movement, said puncturing means being operative during said upward movement.

The dispensing mechanism is preferably provided with screw-threaded boss adapted for threaded engagement with a complimentary threaded neck on the container.

An embodiment of the invention will now be described, by way of example only with reference to the accompanying drawings in which:—

Fig. 1 is a front elevation of a dispenser constructed according to the invention with the detachable container removed; and

Figs. 2 to 5 are illustrations showing the manner of

fitting the container to the dispenser.

Referring to the drawings, the dispenser comprises a mounting plate 5 the lower region of which carries a locking plate 6 having downwardly diverging sides 7 which are undercut for engagement with complimentary inclined formations on the rear wall of a detachable dispensing mechanism 10, the arrangement being such that the dispensing mechanism may be engaged with the mounting plate by moving it downwards until the complimentary inclined portions of the locking plate and the dispensing mechanism come into contact with one another and prevent further downward movement, thereby locking the dispensing mechanism to the mounting plate.

Towards its upper end the mounting plate carries a bracket 11 provided with a downwardly directed pointed projection or spike 12. A cap member 13 is provided at the upper end of the mounting plate and extends forwardly of the mounting plate to form a cap or cover for the upper end of the detachable container 15. The mounting bracket is provided with apertures through which screws or the like may be passed to secure the dispenser to a wall or other suitable support.

The detachable container 15 comprises a bottle moulded from plastics material and having a threaded neck 16 adapted for engagement with complementary threaded boss on the dispensing mechanism. The dispensing mechanism incorporates a plunger 17 and suitable valve means whereby on depressing and releasing the plunger a measured quantity of product is dispensed from the container 15. The container is generally transparent or translucent.

In use of the dispenser, the dispensing mechanism is released from the mounting plate by lifting it upwards to disengage the complimentary inclined formations and is then inverted and threadedly engaged with the container as shown in Fig. 2. The unit consisting of the container and dispensing mechanism is then inverted and fitted to the mounting plate by locating the upper region of the container under the cap 13, moving the unit upwards so that the inclined formations on the dispensing mechanism clear the complimentary formations on the mounting bracket and then moving the unit inwards and downwards to engage the dispensing mechanism with the mounting bracket. The sequence of movements is indicated by the arrows A, B and C in Fig. 3. During the upward movement the upper end of the container comes into contact with the downwardly projecting spike 12 and is pierced to form a vent allowing entry of air to replace the product dispensed by operation of the dispensing mechanism.

Thus it will be seen that the arrangement described provides a simple and effective means for ensuring automatic venting of each fresh container of product when it is fitted to the dispenser, thereby overcoming the problems encountered with previously proposed dispensers where the container

required to be manually vented as a separate operation.

In some instances users may prefer to purchase their product in bulk and re-fill the container from the bulk supply. For this purpose a special form of container may be provided having a recess formed centrally at the upper region of the back wall such that when the container is fitted to the mounting bracket the puncturing device is received within the recess and does not act to puncture the container. In this case the container is provided with a separate manually operated venting valve which can be closed when the container is re-filled and opened when it is fitted to the dispenser.

Various modifications may be made without departing from the invention. For example, the construction of the puncturing means may vary provided it is operative to puncture the container automatically on insertion into the dispenser. The dispensing mechanism itself may also be of different construction and the dispenser may be arranged such that the dispensing mechanism remains attached to the dispenser during fitting and removal of the container.

CLAIMS

1. A dispenser incorporating a dispensing mechanism, means for receiving and locating a detachable container of product to be dispensed, and means operable to effect venting of the container on fitting of same to the dispenser.

2. A dispenser according to claim 1 incorporating a mounting plate by means of which it may be secured to a wall or other support, said dispensing mechanism being carried by a lower portion of said mounting plate and said venting means comprising a downwardly directed spike or like projection mounted towards the upper region of the mounting plate and operable to puncture the container on engagement therewith.

3. A dispenser according to claim 2 wherein said dispensing mechanism is detachably mounted on said mounting plate and incorporates said means for receiving and locating said container, said puncturing means being disposed in a position such that it is operative to puncture the container during engagement of the dispensing mechanism and container with said mounting plate.

4. A dispenser according to claim 3 wherein said dispensing mechanism is engaged with the mounting plate by means of an upward movement followed by a downward locking movement, said puncturing means being operative during said upward movement.

5. A dispenser according to claim 4 wherein the lower portion of said mounting plate is provided with a locking plate having downwardly diverging sides which are undercut for engagement with complementary inclined formations on the rear of said dispensing mechanism.

6. A dispenser according to any preceding claim wherein said dispensing mechanism is provided with a screw-threaded boss adapted for threaded engagement with a complementary threaded neck on the container.

7. A dispenser according to any preceding claim

incorporating a container of product to be dispensed, the container being formed from transparent or translucent plastics material.

8. A dispenser substantially as hereinbefore described with reference to Fig. 1 of the accompanying drawings.

9. Any novel subject matter or combination including novel subject matter herein disclosed whether or not within the scope of or relating to the same invention as any of the preceding claims.

Printed for Her Majesty's Stationery Office by The Tweeddale Press Ltd., Berwick-upon-Tweed, 1981.
Published at the Patent Office, 25 Southampton Buildings, London, WC2A 1AY, from which copies may be obtained.