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PATENT SPECIFICATION



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432,142

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COMPLETE SPECIFICATION

Means for Filling the Necks of Bottles

We, N. V. DIKKERS & BARGEBOER, 112, Oude Scheveningscheweg, The Hague, Holland, a Dutch Company, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

5 The subject of the invention is a bottle or the like having means for filling the neck of the bottle.

10 The present invention consists in the provision in the neck of the bottle of a restriction formed in the bottle itself, a ball valve or like member within the neck adapted to seat on such restriction and a stopper provided with a stem or the like permitting a small movement of the valve when the bottle is inverted.

15 The neck of the bottle is filled by tilting or wholly inverting the bottle and then returning it to upright position. The valve member prevents the liquid escaping from the neck into the bottle and thus permits in a very simple manner the withdrawal from the bottle of a very small quantity of liquid, *e.g.* ink for a fountain pen, or a small spoonful of essence. The limitation of the movement of the valve member permits of filling almost entirely the neck of the bottle (as for filling fountain pens). On return of the bottle to the normal position the valve member closes the restriction so rapidly that practically no liquid returns to the body of the bottle.

20 Fig. 1 of the accompanying drawing illustrates one embodiment of the invention. In a bottle having a body portion 1, a neck 2 and a restriction 3 there is shown disposed in the neck a spherical element 5 which wholly or partly closes the restriction 3 when the bottle is upright. The stopper or cork 4 has a short stem 6 which limits the movement of the ball to a few mms. when the bottle is inverted. The limitation of movement of the valve can be provided by means of a small rubber tube 19 (Fig. 3) fitted over a pin 17 on the stopper 16 and securing at the same time the washer 18.

The device operates as follows:—

On inverting the bottle, the valve member 5 frees the restriction 3 and the neck is filled with liquid, the air escap-

ing into the body portion of the bottle. As a large space is thus provided no foam forms. If the bottle is now returned to normal position, the restriction 3 is very rapidly closed and due to the small movement required by the valve member the neck remains filled with liquid.

60 In many instances for example with liquids which form sediments it is desirable that it should be possible to empty the neck of the bottle after the desired quantity has been removed from the neck. This is attained by making the restriction of conical form, which effect can be still further increased by disposing the restriction eccentrically and/or by providing a lateral extending portion in the neck just above the restriction (see Figures 1, 2, 3, and 4). If the bottle is held slightly tilted in the position shown then the valve member falls against the side 9 (Fig. 2) and frees the opening 3.

65 The bottle may be of such form that it does not require to be completely inverted in order to leave liquid in the neck, *e.g.* the conical form of the bottle shown in Fig. 4.

70 Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

75 1. A bottle with a restriction in the neck, wherein the restriction is formed in the bottle itself and is adapted to be closed by a ball valve or like member adapted to close on a seat formed by the restriction, a stopper provided with a stem or the like permitting a small movement of the valve when the bottle is inverted.

80 2. A bottle as claimed in claim 1, wherein the restriction is substantially of conical form.

85 3. A bottle as claimed in claim 1 wherein the restriction is disposed eccentrically with respect to the centre line of the neck, and/or the neck has a lateral extended portion just above the restriction.

90 4. A bottle as claimed in claim 1 wherein the body of the bottle is substantially of conical form.

[Price 1/-]

Price 4s 6d

Dated this 12th day of May, 1934.

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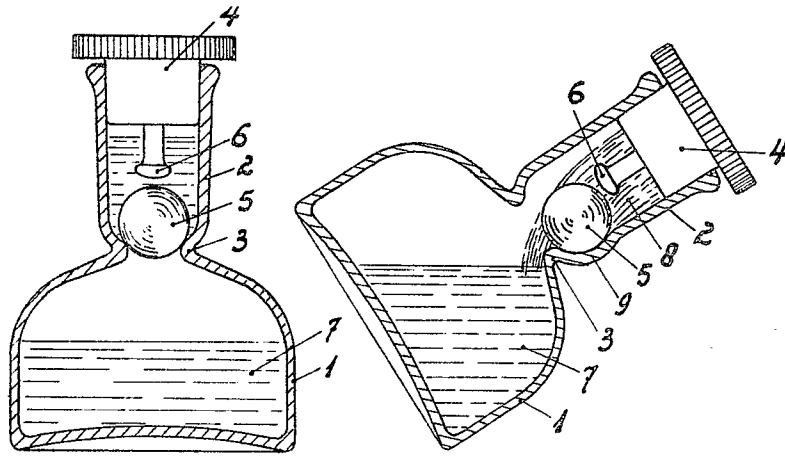


FIG. 1

FIG. 2

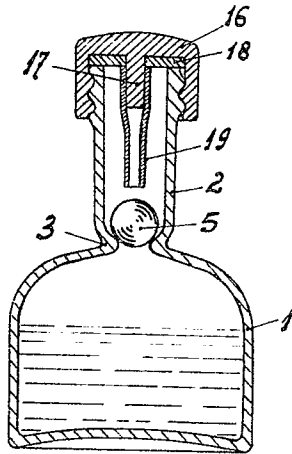


FIG. 3

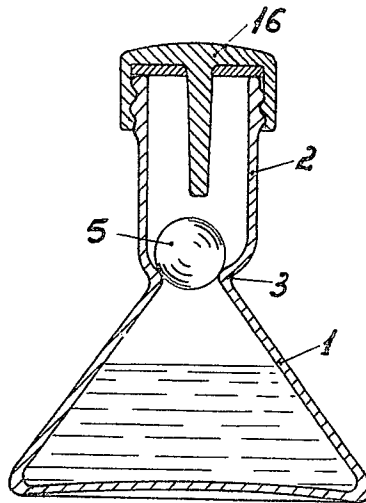


FIG. 4

[This Drawing is a reproduction of the Original on a reduced scale.]