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BOTTLE CLOSURE AND DISPENSER
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Fig. 1
Fig. 2
Fig. 3

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BOTTLE CLOSURE AND DISPENSER

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The invention relates to improvements in a bottle closure and dispenser and concerns more particularly bottles in the interior of which a dropping tube is permanently inserted and is only removed during its use or when re-filling.

In an assembly of this kind, the principal problem to be solved is that of absolute fluid tightness, which has necessarily to be ensured between the tube and the stopper of the bottle, so that when the bulb is placed in position, operation shall be normal and ensure the perfect filling of the tube.

In the improvements according to the invention, the tube is mounted in the stopper which in its turn is screwed on the bottle, the fluid-tightness being ensured by a filling of material, cork or the like, inserted in the interior of a tubular housing carried with the stopper, while being maintained therein by a flange provided on the upper end of the tube.

The invention is clearly illustrated in the accompanying drawing, in which:—

Fig. 1 is an elevational view partly in vertical section showing the bulb applied to the stopper, the parts being arranged in position for use,

Fig. 2 is an elevational view of the bulb when separated, and

Fig. 3 is a view corresponding to Fig. 1 with the bulb removed and the closure cap applied to the stopper.

The bottle, of any type, is shown at 1 and terminates, in the ordinary manner, in a neck 2 having an external screwthread, on which is screwed a stopper 3 with the interposition of a plastic joint 4 pierced by a central hole for the passage of the dropping tube 8. The stopper 3 is provided about the hole with an upright annular flange 5 of small height on the periphery of which is soldered or welded a small tubular housing 6 of a definite height. On the upper part of the housing 6 is provided an external screwthread for the accommodation of the closure cap 7. In the interior of the said small tubular housing 6 is engaged the dropping tube 8, the diameter of which is such that it can pass freely into the cylindrical flange 5 integral with the stopper 3. The tube 8 is provided with a lateral flange 9 on its upper end.

In the interior of the housing 6 is a cylindrical filling of plastic material or cork 10, which consequently extends in the interior of the said annular flange 5 of the stopper 3. The dropping tube 8 consequently passes through the filling 10 which forms a fluid-tight joint and which is held and pressed against the flange 5 integral with the stopper 3 by means of the flange 9 provided on the upper end of the dropping tube 8.

Due to this arrangement, it will be seen that absolute fluid-tightness is provided by the filling of plastic material 10 interposed between the whole of the stopper 3 and the flange 9 of the tube 8.

When it is desired to utilize the dropper, it is merely necessary to unscrew the cap 7 and to engage the rubber bulb 11 in its place on the housing 6. When the tube 8 has been filled by deformation of the bulb 11, it is merely necessary to unscrew the unit formed by the stopper 3 in order to disengage the bottle 1. Fluid-tightness is therefore ensured by the washer 4 interposed between the neck of the bottle 1 and the stopper 3, and through which passes the tube 8, and also between the tube 8 and the housing 6 of the stopper 3 by the tubular filling of plastic material 10 maintained by the flange 9.

The constructional form shown is capable of modifications, for example, the stopper 3 may be surmounted solely by a tubular part having two diameters, so as to form a housing for the positioning of the filling 10.

I claim:

1. A bottle closure and dispenser including a closure cap having a central opening in the top, an upright annular flange of small height formed about the opening, a tubular housing fixed to the periphery of the flange, a dropping tube arranged through the housing and opening, and a filling of plastic material arranged in the housing and about the tube forming a joint and ensuring fluid-tightness.

2. An arrangement as claimed in claim 1, wherein a flange is provided on the upper end of the dropping tube for holding the plastic material in position in the housing.

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