CLAIMS

1. A bottle for packaging a liquid to be dispensed drop by drop comprising a reservoir for storing a preservative-free liquid, said reservoir having a wall with elastic deformation that is reversible by letting air into the reservoir by means of a dispensing head through which the liquid is delivered under the effect of a pressure exerted against said wall,

- wherein said head for dispensing the liquid comprises a nacelle (13) by which it is fitted in a sealed manner into the bottle, and a dropper tip (1) extending it to the outside of the bottle and which is pierced with a central channel (3) leading to an orifice for expulsion of the liquid,

- and wherein an antibacterial filtering membrane (6), mounted on the base (4) of said tip, between the latter and said nacelle, is interposed across the flow of the air required to enter the bottle after a dispensing of liquid;

characterized in that selectively said dropper tip (1), situated beyond said antibacterial filtering membrane, to the exclusion of said nacelle (13), is made of a material containing a bactericidal agent having effect in the prevention of a bacterial proliferation on the surface of the material,

and characterized in that the tip (1)is made in two parts comprising a body (12) and a central core (7), said central core being inserted into the central channel of the tip and comprising a plurality of sub-channels in order to define the circuit of expulsion of the liquid through said body, said body and said core both being made of materials containing bactericidal agents.

2. The bottle as claimed in claim 1, characterized in that it also comprises a pad for regulating the flow in said nacelle (13).

3. The bottle as claimed in claim 1 or 2, characterized in that the material of said body (12) contains a bactericidal agent distributed throughout its mass having effect by migration to the surface of the material while the central core (7) is made of a material comprising a bactericidal agent based on a chlorinated phenolic compound.

4. The bottle as claimed in claim 3, characterized in that said chlorinated phenolic compound in said core (7) is 5-chloro-2-(2,4-dichlorophenoxy)phenol, or triclosan.

5. The bottle as claimed in any one of claims, characterized in that said body (12) of the tip is made of a material containing as a bactericidal agent an ion-bearing polymer which is uniformly distributed throughout its mass.

6. The bottle as claimed in claim 5, characterized in that said bactericidal ions are silver ions.

7. The bottle as claimed in any one of claims, characterized in that the core (7) inside the tip (1) is a porous sintered thermoplastic material, in particular based on polyethylene.

8. The bottle as claimed in claim 7, characterized in that the porous material has a mean pore dimension, the order of magnitude of which is some hundred micrometers.

9. The bottle as claimed in one of claims 7 or 8, characterized in that the terminal portion of the expulsion channel of the external main body of the tip and the core made of porous material have a cylindrical shape, the cylindrical shape of the terminal portion of the

expulsion channel conforming to the cylindrical shape of the core made of porous material.

10. The bottle as claimed in claim 9, characterized in that the body (12) of the tip is made by overmolding of the porous material constituting said core.

11. The bottle as claimed in any one of claims, characterized in that it is used for the packaging of an ophthalmic solution with no preservative.

CLAIMS

1. A bottle for packaging a preservative-free liquid to be dispensed drop by drop comprising a reservoir with a wall with elastic deformation that is reversible by letting air into the reservoir by means of a dispensing head through which the liquid is delivered under the effect of a pressure exerted against said wall, wherein said head for dispensing the liquid comprises a nacelle (13) by which it is fitted in a sealed manner into the bottle, in communication with said reservoir, and a dropper tip (1) extending it to the outside of the bottle which is pierced with a central channel (3) leading to an orifice for expulsion of the liquid, and wherein a bacterial filtering membrane (6), mounted on the base (4) of said dropper tip, between the latter and said nacelle, is interposed across the flow of the air required to enter the bottle after a dispensing of liquid, the bacterial filtering membrane is partially hydrophilic and partially hydrophobic, characterized in that said dropper tip selectively, to the exclusion of said nacelle, is made of a material containing a bactericidal agent having effect in the prevention of a bacterial proliferation on the surface of said tip, and wherein into the central channel of the tip, a core is inserted arranging a plurality of sub-channels for the expulsion of the liquid, said sub-channels are formed by grooves hollowed out on the external surface of said core.

2. A bottle for packaging a preservative-free liquid to be dispensed drop by drop comprising a reservoir with a wall with elastic deformation that is reversible by letting air into the reservoir by means of a dispensing head through which the liquid is delivered under the effect of a pressure exerted against said wall, wherein said head for dispensing the liquid comprises a nacelle (13) by which it is fitted in a sealed manner into the bottle, in communication with said reservoir, and a dropper tip (1) extending it to the outside of the bottle which is pierced with a central channel leading to an orifice for expulsion of the liquid, and wherein a bacterial filtering membrane (6), mounted on the base of said dropper tip, between the latter and said nacelle, is interposed across the flow of the air required to enter the bottle after a dispensing of liquid, the bacterial filtering membrane is partially hydrophilic and partially hydrophobic, characterized in that said dropper tip selectively, to the exclusion of said nacelle, is made of a material containing a bactericidal agent having effect in the prevention of a bacterial proliferation on the surface of said tip, and wherein into the central channel of the tip, a core is inserted arranging a plurality of sub-channels for the expulsion of the liquid, the core (7) inside the tip is a porous sintered thermoplastic material.

3. The bottle as claimed in claim 1 or 2, characterized in that the body (12) of the tip is made of a material containing as a bactericidal agent an ion-bearing polymer which is uniformly distributed throughout its mass.

4. The bottle as claimed in claim 3, characterized in that the bactericidal ions are silver ions.

5. The bottle as claimed in claim 3, characterized in that the proportion of polymer bearing ions with a bactericidal effect in the material of the tip is between 1 and 10% by weight.

6. The bottle as claimed in claim 5, characterized in that the proportion of polymer bearing ions with a bactericidal effect in the material of the tip is between 2 and 5% by weight.

7. The bottle as claimed in claim 1, characterized in that said core inside the tip is made of a material comprising a bactericidal agent based on a chlorinated phenolic compound.

8. The bottle as claimed in claim 7, characterized in that the material forming said core (7) contains as a bactericidal compound 5-chloro-2-(2,4-dichlorophenoxy)phenol, or triclosan.

9. The bottle as claimed in claim 1, characterized in that said sub-channels are at least two in number, evenly distributed about the axis of said core.

10. The bottle as claimed in claim 9, characterized in that said sub-channels are four in number.

11. The bottle as claimed in claim 2, characterized in that the porous sintered thermoplastic material is based on polyethylene.

12. The bottle as claimed in claim 2, characterized in that the porous material has a mean pore dimension between 0.1 and 0.2 mm (100 and 200 μm).

13. The bottle as claimed in claim 2, characterized in that the terminal portion of the expulsion channel of the external main body of the tip and the core made of porous material have a cylindrical shape, the cylindrical shape of the terminal portion of the expulsion channel conforming to the cylindrical shape of the core made of porous material.

14. The bottle as claimed in claim 2, characterized in that the terminal portion of the tip is made by overmolding of the porous material constituting said core.

15. The bottle as claimed in claim 1 or 2, characterized in that it comprises, at the base of the central channel, a peripheral boss interacting with a matching peripheral groove formed at the base of said core for the attachment by elastic snap-fitting effect of said core into said channel.

16. The bottle as claimed in claim 1 or 2, characterized in that it is used for the packaging of an ophthalmic solution with no preservative.