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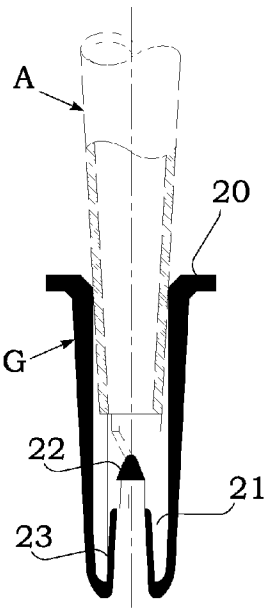
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(54) Title: ACCESSORY DEVICE FOR CONES FOR THE EAR CARE



(57) Abstract: The accessory device G has a practically frustum-conical overall shape and has a flange 20, which facilitates its grip both during the insertion onto the cone A and during the possible removal. Three ribbings 21 descend from the leader-shaped mouthpiece to the inside, with the same inclination of the cone A. These ribbings are spaced of 120° to guarantee the perfect coaxiality of the inserted cone. They reach the bottom of the accessory device from which a frustum-conical portion 23 centrally extends, forming, together with the outer surface, a sort of annular interspace. This is meant for the deposit of the particles dropped by the deceleration of the fumes and of those thereto diverted by the portion 22 that, hold by the three ribbings 21, is located in axial position and raised relatively to the frustum-conical portion 23 to prevent possible burnt particles, and also trickles of melted wax, from arriving thereto for gravity from the cone A placed above.

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AMENDED CLAIMS

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1. Accessory device for cones for the ear care of the waxed-cloth cone-type, used to obtain the removal of the earwax from the outer ear canal through their burning, comprising a first portion in which an end portion of the cone is suitable to be inserted and a second portion in communication with the first portion, suitable to be associated with the ear, shaping a hole for the passage of the fumes produced by the burning of the cone, characterized in that the first and second portion are made in one-piece of a soft heat-insulating material and internally define a chamber which, in use, is suited to be partially occupied by the end portion of the inserted cone at the first portion, and realizes from the end portion of the cone inside the chamber onwards a widening of section enabling a deceleration of the fumes flow, so that in a first phase the fumes produced by the burning of the cone flow out downwards through the hole of the second portion in a decelerated way, and in a second phase the fumes flow back upwards from the ear canal into the chamber through the hole of the second portion by depression, shaping the second portion a rounded bottom around the hole for the deposit of the liquid or solid particles conveyed by the downward and upward flow of the fumes that pass through the chamber.

2. Accessory device as in claim 1, characterized in that around a circular insertion mouthpiece of the wax-cloth cones a flange stretches out peripherally in order to facilitate its grip during the appliance onto the cone and in case of a possible removal for the re-use.

3. Accessory device as in claims 1 and 2, characterized in that the element (B) has a cap shape and has a first frustum-conical portion that, suited to the pressure insertion of the lower end of the cone (A), is followed by a practically cylindrical portion terminating with a centrally pierced bottom for the passage of the fumes and rounded for a better support inside the cavity of the auricle pavilion.

4. Accessory device as in claims 1 and 2, characterized in that the element (C) has an amphora shape and has a first frustum-conical portion that, suited to the pressure insertion of the end portion of the cone (A), is followed by a sort of bulge terminating

with a centrally pierced bottom for the passage of the fumes and it is rounded for a better support of the cavity of the auricle pavilion.

5. Accessory device as in claims 1 and 2, characterized in that the element (D) has a practically cylindrical overall shape and in the upper part, which is the entrance of the mouthpiece, has a cross-section reduction (6) from which descend, converging towards the centre with the same inclination of the cone (A), three ribbings (7) that, spaced of 120° to guarantee the perfect coaxiality of the inserted cone, extend till the bottom destined to the deposit of the particles conveyed by the fumes and from which the frustum-conical portion (8) centrally extends downwards, which has to be inserted in the initial portion of the outer ear canal and with this aim it is equipped with two or more seal annular fins (9), transversal and flexible.

6. Accessory device as in claims 1 and 2, characterized in that the element (E) has a practically frustum-conical overall shape and in the upper part, which is the entrance of the mouthpiece, has a cross-section reduction (11) from which descend, with the same inclination of the cone (A), three ribbings (12) that, spaced of 120° to guarantee the perfect coaxiality of the inserted cone, extend till the bottom adequately rounded for a better support into the cavity of the auricle pavilion and from which centrally extends a frustum-conical portion (13), which forms, together with the outer surface of the element a sort of annular interspace for the deposit of the particles conveyed by the fumes.

7. Accessory device as in claims 1 and 2, characterized in that the element (F) has a practically cylindrical overall shape and in the upper part, which is the entrance of the mouthpiece, has a cross-section reduction (15) from which descend, with the same inclination of the cone (A), three ribbings (16) that, spaced of 120° to guarantee the perfect coaxiality of the inserted cone, extend till the bottom of the accessory device, from which a frustum-conical portion (17) centrally extends forming, together with the outer surface of the element, a sort of annular interspace for the deposit of the particles conveyed by the fumes, while in connection and aligned with it, from the bottom of the element (F) a practically cylindrical portion (18) extends, to be inserted

in the initial portion of the outer ear canal and, with this aim, equipped with two or more seal annular fins (19), transversal and flexible.

8. Accessory device as in claims 1 and 2, characterized in that, in the versions intended to be applied to the cones that do not have any other accessory device that upstream prevents from the descent of melted wax and also from the fall of burnt particles, these functions are performed by the claimed accessory device in combination to what is provided in claim 1, since there is, with this aim, a diversion member located along the axis passing through the lower hole of the cone and the exit one of the accessory device.

9. Accessory device as in claims 1, 2 and 8, characterized in that from the mouthpiece of the element (G), having a practically frustum-conical overall shape, descend inside, with the same inclination of the cone (A), three ribbings (21) that, spaced of 120° to guarantee the perfect coaxiality of the inserted cone, extend till the bottom of the element, adequately rounded for a better support inside the cavity of the auricle pavilion, from which a frustum-conical portion (23) centrally extends forming, together with the outer surface, a sort of annular interspace for the deposit of the particles dropped from the deceleration of the fumes and of those diverted thereto by the portion (22) that, hold by the three ribbings (21), is located in axial position and raised relatively to the frustum-conical portion (23) to avoid that some burnt particles and trickles of melted wax arrive thereto for gravity, from the cone (A) placed above.

10. Accessory device as in claims 1, 2 and 8, characterized in that, composed of two elements (H) and (L) of the same or different material and having an overall frustum-conical shape to be inserted one into the other until the contact of the respective flanges (26) and (24), and also to allow the pressure insertion of the lower end of the waxed-cloth cone (A) into the element (L), from the lower end of the said element (L) two arms (27) extend converging in the centre to support the conical portion (28) located in axial position and raised in comparison with the frustum-conical portion (25), which extends from the bottom of the element (H) and forms, together with the

outer surface, a sort of annular interspace for the deposit of the particles dropped from the deceleration of the fumes and of those diverted thereto by the portion (28).

11. Accessory device as in claims 1, 2 and 8, characterized in that it is composed of two elements (M) and (N) of the same or different material and shaped to be inserted one into the other to the contact of the respective flanges (29) and (31), and also to hold inside the element (L) the waxed-cloth cone (A) yet insertable not further than the lower end of the upper frustum-conical portion (30) not to obstruct the passage of the fumes from or towards the bottom interspace formed by the element (M) and by the lower portion (33) of the element (N), which is that sort of cup that a couple of arms (32), descending from the upper portion (30), keeps centered and raised relatively to the pierced bottom of the element (M) leaning in the cavity of the auricle pavilion, in order to restrain possible trickles of melted wax and the burnt particles arriving thereto for gravity from the cone (A) placed above while, at the pierced bottom of the element (M), the particles dropped from the deceleration of the fumes gather.

12. Accessory device as in claims 1, 2 and 8, characterized in that it is composed of two elements (O) and (P), of the same or different material and shaped to be inserted one into the other to the contact of the respective flanges (34) and (38), and also to hold the waxed-cloth cone (A) inside the element (P) from whose lower end two arms (39) extend, converging in the centre to support the conical portion (40) located in axial position and raised relatively to the frustum-conical portion (35), which extends from the bottom of the outer element (O) and forms, together with the outer surface, a sort of annular interspace for the deposit of the particles dropped from the deceleration of the fumes and of those diverted thereto by the above-mentioned portion (40) of the element (P).

13. Accessory device as in claim 12, characterized in that in connection to the frustum-conical portion (35) and aligned with it, from the bottom of the element (O) a practically cylindrical portion (36) extends, which is intended to be inserted in the initial portion of the outer ear canal and, with this aim, is equipped with two or more seal annular fins (37), transversal and flexible.

14. Accessory device as in claims 1, 2 and 8, characterized in that it is composed of two elements (Q) and (R), of the same or different material, shaped to be inserted one into the other to the contact of the respective flanges (41) and (46) and also to hold, inside the element (R), the waxed-cloth cone.

15. Accessory device as in claim 14, characterized in that the outer element (Q) shows a sequence of three frustum-conical portions (42), (43) and (44), which all get narrower at the bottom having each the smallest diameter coinciding with the largest one of the following portion.

16. Accessory device as in claims 14 and 15, characterized in that the portion (44), exclusively intended to enable the passage of the fumes and shaped to be inserted into the initial portion of the outer ear canal, is, with this aim, equipped with two or more seal annular fins (45), transversal and flexible, while the overlooking portions (43) and (42) are intended to hold the entire inner element (R), thanks to which is obtained the deposit of the particles dropped from the deceleration of the fumes and of those that arrive thereto for gravity from the cone (A), together with the possible trickles of melted wax since from the portion (47) of the element (R) two coplanar ribbings (48) stretch out, connecting to the said portion (47) a conical portion (49), located in axial position and raised relatively to a hollow frustum-conical portion (50), which shapes at one end a broadening (51) which matches with the frustum-conical portion (43) of the outer element (Q).

17. Accessory device as in claims 1, 2 and 8, characterized in that it is composed of two elements (S) and (T), of the same or different material, shaped to be inserted one into the other to the contact of the respective flanges (52) and (56) located at the respective upper ends, of which, that of the inner element (T) has a leader-shaped mouthpiece to hold the waxed-cloth cone (A) insertable not further than the lower end of the upper frustum-conical portion (57) not to obstruct the passage of the fumes from or towards the bottom annular interspace formed by the element (S) and by the lower portion (59) of the element (T), consisting of a sort of cup that is kept centred and raised by three or four ribbings (58) descending from the flange (56) of the upper

portion (57), in order to restrain the possible trickles of melted wax and the burnt particles arriving thereto for gravity from the cone (A) placed above.

18. Accessory device as in claim 17, characterized in that outside the so-called cup (59) there are some annular fins (60) that further slow down the fumes flow so that the particles conveyed can deposit at the bottom of the element (S) and in particular in that annular space surrounding the frustum-conical portion (53) that centrally extends from the cited bottom, in alignment with the cylindrical portion (54) that stretches down to be inserted in the initial portion of the outer ear canal and that is with this aim equipped with two or more seal annular fins (55), transversal and flexible.