April 19, 1966 F. W. ROLLER, SR 3,246,657

COSMETIC DISPENSER

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FIG. 1.

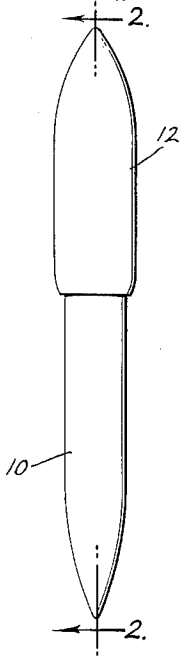


FIG. 2.

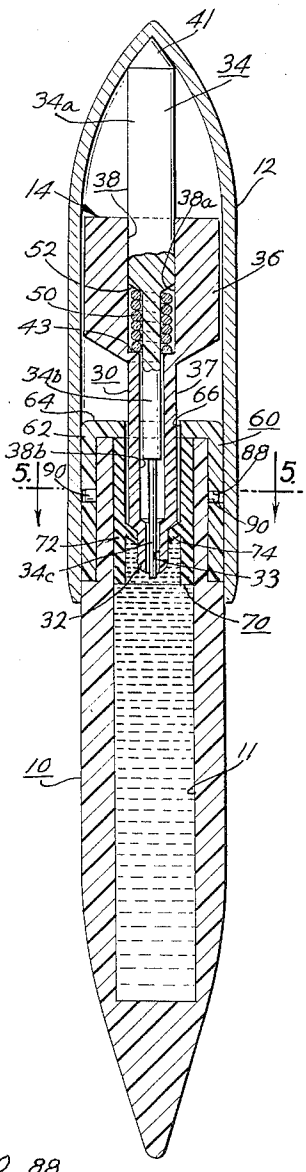


FIG. 3.

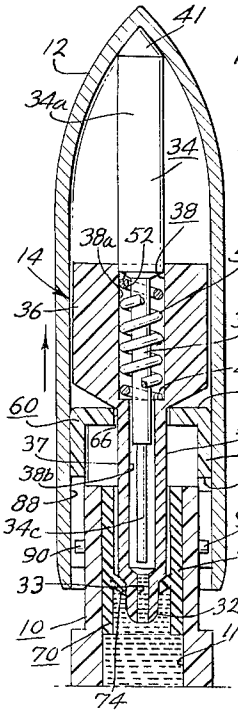


FIG. 4.

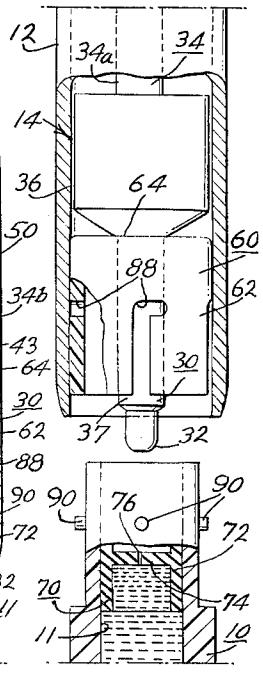


FIG. 5.

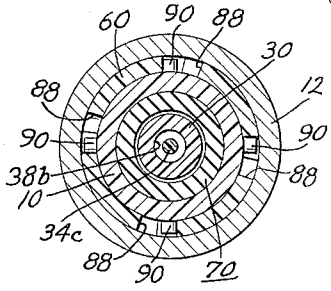
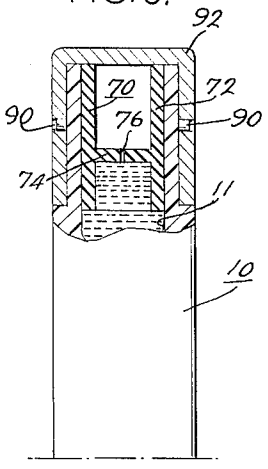


FIG. 6.



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FIG. 7.

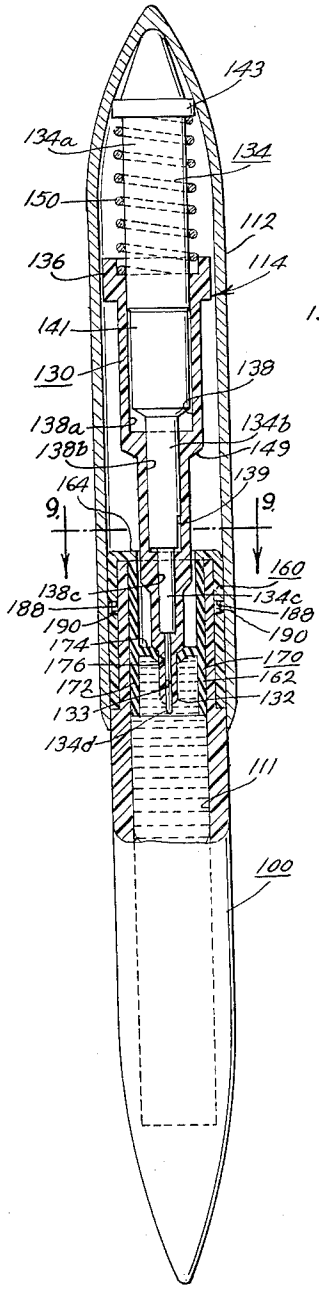


FIG. 10.

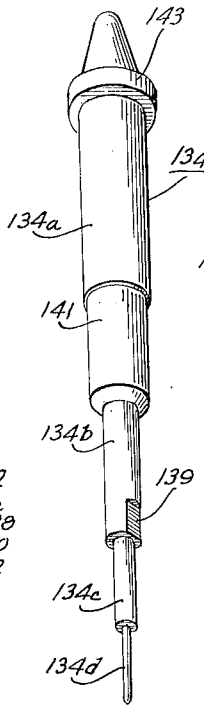
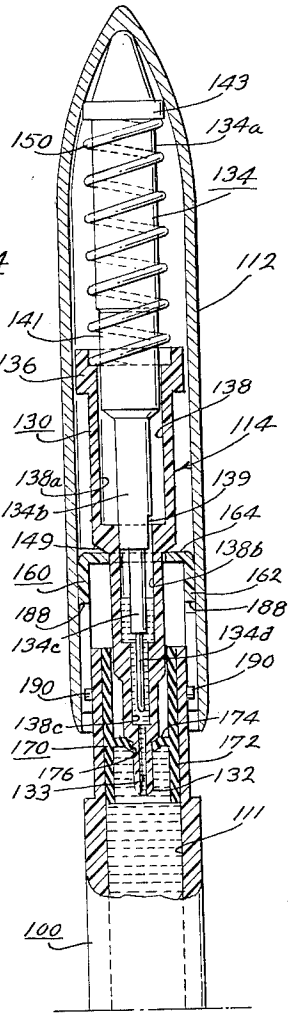


FIG. 8.



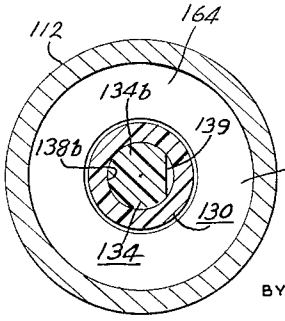


FIG. 9.

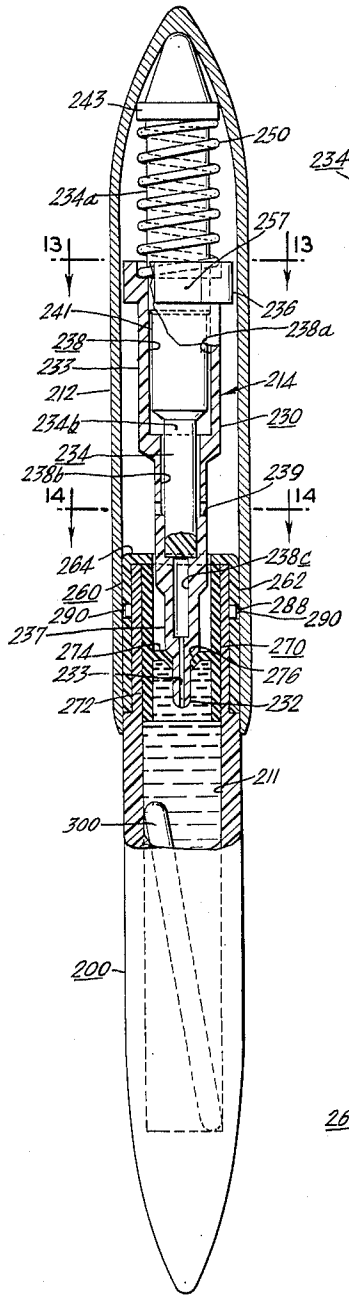
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FIG. 11.



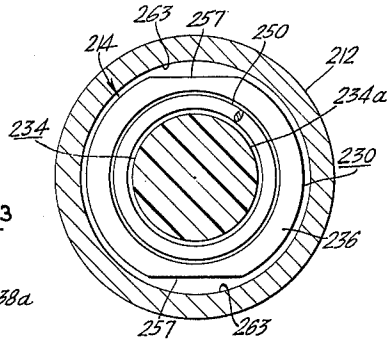


FIG. 13.

FIG. 12.

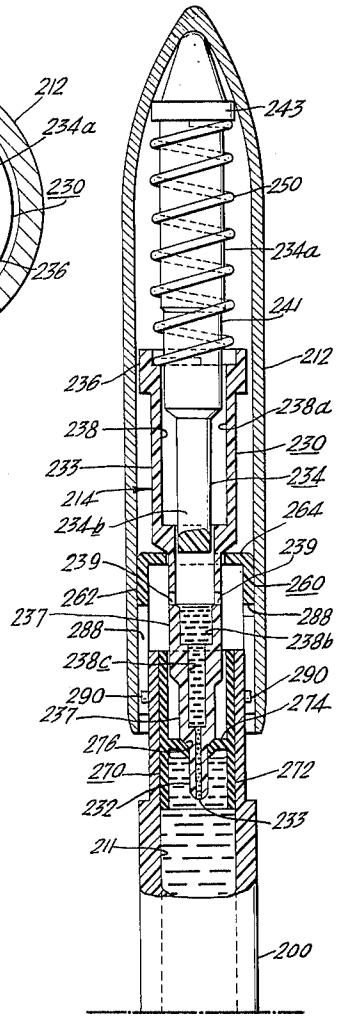
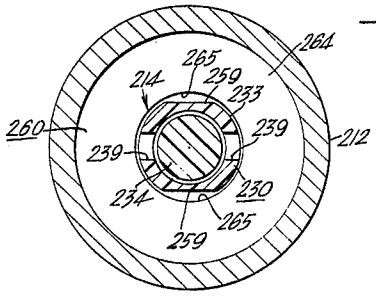


FIG. 14.



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United States Patent Office 3,246,657 Patented Apr. 19, 1966

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COSMETIC DISPENSER

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Filed Aug. 12, 1963, Ser. No. 301,248
4 Claims. (Cl. 132—79)

The present invention relates to cosmetic dispenser units and more particularly to the type known as "eye liners" used to apply a line or marking to the eye lids.

Presently, "eye liners" fall into two categories or types, a brush type used to apply a liquid substance and a pencil applicator employing a waxy substance as lead. With the brush type, the brush is dipped into a liquid reservoir and then stroked over the portion of the skin around the eye desired to be lined or marked. An objectionable feature of this type of applicator is that even when great care is exercised in the use of the brush, nevertheless, it is extremely difficult to form a uniform line or marking. Moreover, the brush usually incorporates a cap closing a reservoir for the liquid eye makeup so that when the brush is in use, there is the possibility of spilling the contents of the reservoir. The pencil type applicator requires application of undue pressure to a very sensitive area on which it is applied in order to form the desired line or mark and necessitates periodic sharpening.

The present invention provides a cosmetic dispensing unit which is characterized by novel features of construction and arrangement and which obviates the disadvantages and difficulties of prior types discussed above. To this end, the dispenser of the present invention includes an elongated applicator member having a bore therethrough, including at one end a tip portion with a bore of capillary dimension and a piston engageable in the bore.

The applicator member and piston are mounted for relative movement to dispose the piston between an extended position and a retracted position whereby a quantity of a liquid eye liner may be drawn into the bore by immersing the tip portion in a liquid eye liner or the like and actuating the piston from the extended to the retracted position. The liquid may then be dispensed from the capillary bore of the tip by engaging with a slight pressure the outer free end of the tip portion on the area desired to be lined or marked whereby the surface tension of the liquid is broken permitting flow of the liquid from the capillary bore. The tip portion is preferably made of a flexible material such as plastic having a smooth soft feel when pressed against the skin. The liquid is preferably stored in a reservoir which is closed by means of a flexible diaphragm having an opening therein permitting insertion of the tip portion therethrough to fill the capillary bore and which seals the contents of the reservoir when the tip section is withdrawn, thus obviating spillage of the contents of the reservoir when the applicator is being used.

The features and details of a cosmetic dispenser made in accordance with the present invention are hereinafter more fully set forth with reference to the accompanying drawings, in which:

FIG. 1 is a side elevational view of one embodiment of cosmetic dispenser unit in accordance with the present invention;

FIG. 2 is an enlarged longitudinal view of the dispenser unit taken on lines 2—2 of FIG. 1;

FIG. 3 is an enlarged fragmentary sectional view similar to FIG. 2 with the cap housing the applicator device disengaged from the casing;

FIG. 4 is an enlarged fragmentary view partly in section showing the cap and applicator device completely disengaged from the reservoir;

FIG. 5 is an enlarged sectional view taken on lines 5—5 of FIG. 2;

FIG. 6 is a fragmentary view partly in section of a replacement casing;

FIG. 7 is a side elevational view partly in section of another embodiment of cosmetic dispenser unit in accordance with the present invention;

FIG. 8 is a fragmentary view partly in section showing the cap disengaged from the casing;

FIG. 9 is an enlarged sectional view taken on line 9—9 of FIG. 7;

FIG. 10 is a perspective view of the piston of the applicator device;

FIG. 11 is a side elevational view partly in section of still another embodiment of cosmetic dispenser unit in accordance with the present invention;

FIG. 12 is a fragmentary view partly in section showing the cap disengaged from the casing; and

FIGS. 13 and 14 are enlarged sectional views taken on lines 13—13 and 14—14 respectively of FIG. 11.

Referring now to the drawings, there is illustrated in FIGS. 1–5 inclusive, one embodiment of cosmetic dispenser unit in accordance with the present invention comprising a generally cylindrical hollow casing or barrel **10** open at its upper axial end to provide a reservoir **11** for liquid such as a pigmented eye liner solution and a cap **12** detachably secured over the open end of the casing **10** within which is housed an applicator device **14**. The casing **10**, which may be made of plastic, and the cap **12**, which may be made of metal, are conically shaped at their lower and upper ends, respectively, so that in the assembled relation, the dispenser unit resembles a fountain pen or the like.

In accordance with the present invention, the applicator device **14** comprises an elongated member **30** having a tip portion **32** at one end with an axial bore **33** of capillary dimension and a piston **34** having at least a segment thereof engaging in the capillary bore **33**. The piston **34** and member **30** are mounted for relative axial movement to dispose the piston **34** between an extended position in the bore **33** (see FIG. 2) and a retracted position removed from the bore **33** (see FIG. 3). Thus when it is desired to fill the capillary bore **33**, the tip portion **32** is immersed in a liquid whereby liquid is drawn into the capillary bore **33** when the member **30** is actuated to dispose the piston **34** from an extended to a retracted position. The liquid may be dispensed or discharged from the capillary bore **33** by engaging the outer free end of the tip portion of the member **30** with a slight pressure on the area desired to be lined or marked whereby the surface tension of the liquid is broken permitting flow of the liquid from the capillary bore **33**.

Considering now more specifically the structural details and arrangement of the applicator device **14**, the elongated member **30** is of stepped configuration including an enlarged generally cylindrical head portion **36** at its upper end opposite the tip portion **32**, an intermediate portion **37** of reduced cross section connecting the head portion **36** and tip portion **32** and a stepped axial bore **38** extending therethrough within which the piston **34** is mounted. The upper bore section **38***a* is coextensive with the head portion **36** and is greater in diameter than the intermediate bore section **38***b* which is coextensive with the intermediate portion **37** and which is of greater diameter than the capillary bore **33** with which it merges. The piston **34** is also of a stepped configuration comprising as illustrated, an upper segment **34***a* of a cross sectional size to freely slide in the upper bore section **38***a* of the member **30**, an intermediate segment **34***b* of suit-

able cross sectional dimension to slide freely in the intermediate bore section 38*b* and a lower terminal segment 34*c* of a cross section to freely slide in the capillary bore 33. The upper end of the piston 34 is tapered as at 41 to seat in the conical interior end wall of the cap 12, the piston normally being biased in a direction to seat against the conical end wall by means of a coil spring 50 mounted in the upper bore section 38*a* of the member 30 with one end engaging a shoulder 52 at the juncture of the upper and intermediate piston segments 34*a* and 34*b* and its lower end engaging a shoulder 43 at the juncture of the upper and intermediate bore sections 38*a* and 38*b*.

The applicator device 14 is retained in the cap 12 by means of a retaining ferrule 60 mounted in the open lower end of the cap which as illustrated, comprises a generally cylindrical side wall 62 and an annular radial flange 64 projecting from the upper end of the side wall defining an opening 66 through which the tip portion 32 and intermediate portion 37 of the member 30 project. By this arrangement, when the cap 12 is detached from the casing 10, the spring 50 expands to displace the member 30 axially of the cap toward the open end thereof until the lower axial end wall of the head portion 36 abuts the radial flange 64 of the ferrule. (See FIG. 3.) It is noted that in this position, the terminal segment 34*c* of the piston is withdrawn from the capillary bore 33.

In the present instance, the cap 12 is detachably secured over the open end of the casing 10 by providing bayonet type locking slots 88 of inverted L-shaped configuration in the side wall 62 of the ferrule 60 which cooperate with lugs or pins 90 projecting radially outwardly from the outer peripheral surface of the casing 10 adjacent the upper axial end thereof. In the present instance, there are four equispaced bayonet slots 88 in the side wall of the ferrule and there are four circumferentially spaced lugs 90 projecting from the casing or barrel 10. Of course, the cap 12 may be detachably retained on the casing 10 by other suitable means, for example, a threaded connection.

Further in accordance with the present invention, means is provided for sealing the reservoir 11 against leakage at all times. To this end, a sealing member 70 made of a resilient material such as rubber, is mounted in the open end of the reservoir 11 comprising a generally tubular sleeve 72 secured interiorly of the casing 10 and a circular diaphragm 74 in the sleeve 72, extending across the axial bore of the sleeve adjacent to and spaced slightly above the lower axial end thereof. The diaphragm 74 has a centrally located axial slit or opening 76 therein which normally seals the reservoir and prevents escape of liquid therefrom. By this arrangement, the tip portion 32 of the applicator device snugly engages through the opening 76 to permit withdrawal of liquid and when the applicator device 14 is in use, the opening 76 seals to prevent escape of liquid from the reservoir 11.

Prior to use of the dispensing unit, the cap 12 is engaged over the open end of the casing 10 with the pins or lugs 90 engaged in the circumferential leg portions of the bayonet slots 88 to secure the cap and casing against relative axial displacement. It is noted that in the assembled relation, the tip portion 32 projects through the opening 76 in the diaphragm 74 and depends into the upper end of the reservoir 11. Further, the piston 34 is in an extended position, with the tip of the lower terminal segment 34*c* of the piston 34 projecting slightly beyond the free end of the tip portion 32 to prevent liquid from clogging the capillary bore 33.

Accordingly, when it is desired to use the applicator device 14 to apply liquid eye liner to the lid portions of the eye, the cap is rotated relative to the casing 10 to align the pins 90 with the axial portions of the bayonet slots 80 thereby permitting the cap to be displaced axially relative to the casing. The dispensing unit is then inverted to cause liquid to fill the upper portion of the reservoir 11 and with the tip portion 32 projecting through the diaphragm 74, the cap 12 is pumped up and down axially relative to the casing 10 whereby a quantity of liquid is drawn into the capillary bore 33 when the piston is in a retracted position (see FIG. 3). The quantity of liquid drawn into the capillary bore 33 is at least sufficient to trace a complete line on one of the eyelids.

When the capillary bore has been filled, the cap is moved axially relative to the casing 10 to withdraw the tip portion 32 from the diaphragm 74 whereby the opening 76 in the diaphragm seals to prevent leakage of liquid. It is noted that the miniscus formed at the upper end of the capillary bore 33 prevents or blocks flow of liquid to the intermediate bore section 38*b* which might leak into the interior of the cap. The user now applies the outer free end of the tip portion 32 to the surface of the skin whereby the surface tension of the liquid at the entrance end of the capillary bore 33 is broken to release the liquid from the capillary bore as the tip portion 32 is drawn over the skin to form a line or mark. It is noted that there is sufficient clearance between the various elements of the applicator device, such as the intermediate portion 37 of the member 30 and opening 66, the head portion 36 and inner wall of the cap and the piston and bore in the member 30 to permit entrance of air into the bore 38 and preclude creation of a vacuum therein which would prevent flow of liquid from the capillary bore 33.

When the liquid in the capillary bore 33 has been exhausted and it is desired to recharge the capillary bore 33, the tip section 32 is again inserted through the opening 76 in the diaphragm and the cap 12 pumped in the manner described above. After use, the cap 12 is placed over the open end of the casing 10, pressed down and locked into place. It is noted that in so doing, the member 30 is displaced axially relative to the cap 12 and piston 34 to dispose the terminal segment 34*c* of the piston in an extended position thereby to discharge unused liquid from the capillary bore 33 and return it to the reservoir 11. In this position, the piston also prevents hardening and clogging of liquid in the capillary bore 33.

When the entire supply of liquid in the reservoir 11 has been used up, the casing may be discarded and replaced with a new casing identical to the casing 10 which has a disposable cap 92 over the open end thereof as shown in FIG. 6.

There is illustrated in FIGS. 7–10 inclusive another embodiment of cosmetic dispenser unit constructed in accordance with the present invention. The dispenser unit comprises a generally cylindrical hollow casing or barrel 100 open at its upper axial end to provide a reservoir 111 for liquid and a cap 112 detachably secured over the open end of the casing 100 within which is housed an applicator device 114.

The structural details and arrangement of the casing 100 and cap 112 are similar to the embodiment described above. Thus the casing 100 includes sealing member 170 made of a resilient material such as rubber which is mounted in the open end of the reservoir and which comprises a generally tubular sleeve 172 and a circular diaphragm 174 extending across the axial bore of the sleeve having a centrally located axial slit or opening 176 which normally seals the reservoir and prevents escape of liquid therefrom. The cap 112 has a retaining ferrule 160 secured adjacent the open end of the cap comprising a generally cylindrical side wall 162 and a radial flange 164 which terminates in a central opening through which a portion of the applicator device 114 projects. Inverted L-shaped bayonet slots 188 are provided in the side wall 162 of the ferrule, which cooperate with lugs or pins 190 projecting radially from the casing 100 to provide means detachably securing the cap 112 over the open end of the casing 100.

In accordance with this embodiment of the invention, the applicator device 114 comprises an elongated member 130 having an axial bore 138 therethrough and a

piston 134 mounted in the axial bore 138. As illustrated, the member 130 is of stepped configuration having an enlarged head portion 136 at one end, a tip portion 132 at its opposite end and a series of intermediate portions of varying cross section. The bore 138 in the member 130 is also of stepped form comprising an upper bore section 138*a* coextensive with the head portion 136, intermediate bore sections 138*b* and 138*c* and a capillary bore 133 coextensive with the tip section 132. The piston 134 is also of a stepped configuration comprising, as illustrated, an upper segment 134*a* of a size to snugly engage in the bore section 138*a*, intermediate segments 134*b* and 134*c* sized, respectively, to snugly engage in the bore sections 138*b* and 138*c* and a lower terminal segment 134*d* of suitable dimension to engage snugly in the capillary bore 133. The upper segment 134*a* of the piston has a pilot 141 of slightly reduced diameter less than the internal diameter of the bore section 138*a* to provide a clearance therebetween as shown in FIG. 8, and a relief flat 139 is formed adjacent the lower end of the intermediate piston segment 138*b* to permit air to enter the bore 138 above the liquid drawn therein when the piston 134 is in the position shown in FIG. 8.

The piston 134 and member 130 are mounted for relative axial movement to dispose the piston 134 between an extended position (see FIG. 7) and a retracted position (see FIG. 8). In the present instance, the member 130 is movable axially relative to the cap 112 and piston 134 to dispose the piston between extended and retracted positions and is normally urged downwardly relative to the cap 112 by means of a coil spring 150 thereby to normally dispose the piston 134 in a retracted position. As illustrated, the coil spring 150 circumscribes the upper segment 134*a* of the piston, at one end engaging in a socket formed in the upper axial end face of the head portion 136 of the member 130 and at its other end engaging a radial flange 143 adjacent the upper end of the piston 134.

Considering now the use of the dispensing unit, the cap 112 is secured over the open end of the casing 100 and is retained against relative axial displacement relative to the casing 100 by engagement of the pins 190 in the circumferential leg portions of the bayonet slots 188. In the assembled relation, the tip portion 132 projects through the opening 176 in the diaphragm 174 and depends into the upper end of the reservoir 111. Further it is noted that the piston 134 is in an extended position, with the tip of the lower terminal segment 134*c* of the piston 134 projecting slightly beyond the free end of the tip portion 132 to prevent liquid from clogging the capillary bore 133.

When it is desired to use the applicator device 114 to apply liquid eye liner, the cap 112 is rotated relative to the casing 100 to align the pins 190 with the axial portions of the bayonet slots thereby permitting the cap to be displaced axially relative to the casing 100. The dispenser unit is then inverted to cause liquid to fill the upper portion of the reservoir 111. In this position, the cap 112 is pumped up and down axially relative to the casing 100 whereby the member 130 is displaced downwardly relative to the cap 112 to dispose the piston 134 in a retracted position. As the piston 134 is disposed from an extended to a retracted position, a vacuum is created in the capillary bore 138 and bore sections to draw liquid into the member 130 approximately to the level shown in FIG. 8. It is noted that axial movement of the member 130 relative to the cap 112 is limited by engagement of a shoulder 149 on the member 130 with the annular flange 164 of the retaining ferrule 160. It is noted further that when the piston 134 is in a fully retracted position, air is permitted to enter the bore 138 and the vacuum above the liquid in the bore is broken by reason of the clearance between the pilot 141 and bore section 138*a* and the flat 139 and bore section 138*b*.

With the applicator filled, the cap is moved relative to the casing 100 to withdraw the tip portion 132 from the opening in the diaphragm 174 whereby the opening 176 seals to prevent leakage of liquid. The user now applies the outer free end of the tip portion 132 to the surface of the skin whereby the surface tension of a liquid at the entrance end of the capillary bore 133 is broken to release the liquid from the applicator unit as it is drawn over the skin to form a line or mark. It is noted that the clearance between various elements of the applicator device in the retracted position of the piston as noted above, permits entrance of air into the bore above the liquid to preclude creation of the vacuum therein which would prevent flow of liquid from the applicator device.

If it is necessary to recharge the applicator device, the tip portion 132 is again inserted through the opening 176 in the diaphragm 174 and the cap 112 pumped in the manner as described above. After use, the cap is placed over the open end of the casing 100, pressed down and locked in place. It is noted that in so doing, the member 130 is displaced axially relative to the cap 112 and the piston 134 to dispose the terminal segment 134*c* of the piston beyond the tip section whereby unused liquid in the bore is discharged into the reservoir 111 and/or clogging of liquid in the capillary bore 133 is precluded.

There is illustrated in FIGS. 11–14 inclusive another embodiment of cosmetic dispenser unit constructed in accordance with the present invention. The dispenser unit comprises a generally cylindrical hollow casing or barrel 200 open at its upper axial end to provide a reservoir 211 for liquid and a cap 212 detachably secured over the open end of the casing 200 within which is housed an applicator device 214.

The structural details and arrangement of the casing 200 and the cap 212 are similar to the previous embodiments described above. Thus, the casing 200 includes the sealing member 270 made of a resilient material such as rubber which is mounted in the open end of the reservoir 211 and which comprises a generally tubular sleeve 272 and a circular diaphragm 274 extending across the axial bore of the sleeve and having a centrally located axial slit or opening 276 which normally seals the reservoir and prevents escape of fluid therefrom. The cap 212 has a retaining ferrule 260 secured adjacent the open end of the cap comprising a generally cylindrical side wall 262 and a radial flange 264 which terminates in a central opening through which a portion of the applicator device 214 projects. Inverted L-shaped bayonet slots 288 are provided in the side wall 262 of the ferrule which cooperate with lugs or pins 290 projecting radially from the casing 200 to provide means detachably securing the cap 212 over the open end of the casing 200.

The applicator device 214 comprises an elongated member 230 having an axial bore 238 therethrough and a piston 234 mounted in the axial bore 238. As illustrated, the member 230 is of stepped configuration having an enlarged head portion 236 at one end, a tip portion 232 at its opposite end and a series of intermediate portions of varying cross section between the head and tip portions including a portion 237. The bore 238 in the member 230 is also of stepped form and comprises an upper bore section 238*a* coextensive with the head portion 236, intermediate bore sections 238*b* and 238*c* and a capillary bore 233 coextensive with the tip portion 232.

The piston 234 is also of a stepped configuration comprising in the present instance an upper segment 234*a* of a size to snugly engage in the bore section 238*a* and a lower segment 234*b* of reduced diameter depending from the upper segment 234*a*. The upper segment 234*a* of the piston has a pilot 241 of slightly reduced diameter less than the internal diameter of the bore section 238*a* to provide a clearance therebetween.

In the present instance, the intermediate portion 237 of the member 230 adjacent the head portion 236 has a pair of diametrically opposed, radially extending openings 239 therethrough disposed approximately midway be-

tween the outer ends of the intermediate portion 237. Further, as illustrated, the bore section 238*b* in the intermediate portion 233 is of reduced cross section below the openings 239 of a size to snugly receive the lower piston segment 234*b* (see FIG. 12).

The piston 234 and member 230 are mounted for relative axial movement in the cap to dispose the piston 234 between an extended position (see FIG. 11) and a retracted position (see FIG. 12). In the present instance, the member 230 is movable axially relative to the cap 212 and piston 234 to dispose the piston between the extended and retracted positions and is normally urged downwardly relative to the cap 212 and piston 234 to dispose the piston between the extended and retracted positions and is normally urged downwardly relative to the cap 212 by means of a coil spring 250 thereby to normally dispose the piston in a retracted position. As illustrated, the coil spring 250 circumscribes the upper segment 234*a* of the piston, at one end engaging in a socket formed in the upper axial end face of the head portion 236 and at its other end engaging a radial flange 243 adjacent the upper end of the piston 234.

Considering now the use of the dispensing unit, the cap 212 is secured over the open end of the casing 200 and is retained against relative axial displacement relative to the casing 200 by engagement of the pins 290 in the circumferential leg portions of the bayonet slots 288. In the assembled relation, the tip portion 232 projects through the opening 276 and the diaphragm 74 and depends into the upper end of the reservoir 211. Further it is noted that the piston 234 is in an extended position, with the upper end abutting the conical closed end of the cap and the lower segment 234*b* bottomed in the intermediate bore section 238*b*.

When it is desired to use the applicator device 214 to apply liquid eye liner, cap 212 is rotated relative to the casing 200 to align the pins 290 with the axial portions of the bayonet slots 288 thereby permitting the cap to be displaced axially relative to the casing 200. The dispenser unit is then inverted to cause liquid to fill the upper portion of the reservoir 211. In this position, the cap 212 is moved outwardly relative to the casing 200 to the position shown in FIG. 12 whereby the spring 250 urges the member 230 downwardly toward the open end of the cap until the shoulder adjacent the lower end of the head portion abuts the ferrule. During relative movement of the member 230 and the piston 234, the lower segment 234*b* of the piston is displaced to a retracted position thereby drawing liquid into bore of the member 230 to the level shown in FIG. 12. It is noted that during initial movement of the piston to the retracted position, the snug engagement thereof in the bore of the section 238*b* effects a pumping action drawing liquid into the bore of the member 230 up to the level of the openings therein. When the piston is in a retracted position, air is free to enter through the openings 239 above the level of the liquid. In order to insure that there is air above the level of the liquid in the bore of the member 230, the enlarged end of the head portion 236 and outer surface of the intermediate portion 233 are provided with diametrically opposed flats as at 257 and 259 respectively to provide clearance openings 263 and 265 respectively (see FIGS. 13 and 14). With the cap filled, the cap is moved relative to the casing 200 to withdraw the tip portion 232 from the opening in the diaphragm 274 wherein the opening 276 seals to prevent leakage of the liquid. It is noted that the bore 233 of capillary dimension prevents liquid from dripping out of the applicator. The user now applies the outer free end of the tip portion 230 to the surface of the skin whereby the surface tension of the liquid at the entrance and of the capillary bore 233 is broken to release the liquid from the applicator as it is drawn over the skin to form a line or mark. It is noted that the air which is free to enter into the bore of the member 230 behind the liquid therein, permits the liquid to flow out of the applicator during use.

The applicator device may be recharged by inserting the tip portion 232 through the opening 276 of the diaphragm and pumping the cap relative to the casing. After use, the cap is placed over the open end of the casing, pressed down and locked in place, whereby the piston is positioned again in an extended position (see FIG. 11).

Liquid eye liner liquids stored in the casing of the dispenser are usually a heavily pigmented solution which pigment has a tendency to settle when the dispenser has been in a stationary position for an extended period of time. As an aid in suspending the pigment in the fluid or mixing it up, an agitator rod 300 in the present instance of cylindrical form may be provided in the casing 200 as illustrated in the cosmetic dispenser shown in FIGS. 11–14, inclusive. In the course of normal handling of the cosmetic dispenser, the rod 300 usually moves sufficiently in the reservoir 21 to keep the fluid mixed. However, it may be desirable to shake the dispenser prior to use if the dispenser has been in one position for a long period of time whereby the rod 300 moves in the reservoir 211 to mix the liquid therein.

Even though the cosmetic applicator has been described for use as an "eye liner" it is of course to be understood that it may be used to dispense other types of liquids, for example, nail polish, lipstick, mascara, etc. Further, the applicator may be useful in other fields, for example, medical to dispense liquid medicines.

While particular embodiments of the present invention have been illustrated and described herein, it is not intended to limit the invention and changes and modifications may be made therein within the scope of the following claims.

I claim:

1. In a device for dispensing a liquid, a generally cylindrical hollow cap open at one end, a ferrule retainer mounted in said cap adjacent said open end thereof having an annular flange extending radially of the cap defining an opening, an elongated member having an axial bore therethrough mounted in said cap having an enlarged head portion at one end interiorly of said cap and tip portion at its opposite end projecting outwardly beyond the open end of said cap through said opening in said ferrule, said bore having a section of capillary dimension coextensive with said tip portion, a piston engageable in said bore, means mounting said member for axial movement relative to said cap disposing said piston between an extended position in said capillary bore section and a retracted position at least partially removed from said capillary bore section wherein said head portion abuts said annular flange of said ferrule, said piston operable upon actuation of said member disposing said piston from an extended to said retracted position to draw liquid into said capillary bore when the free end of said tip portion is immersed in a body of liquid means providing a clearance between said piston and said bore in the retracted position of said piston thereby to permit air to enter said bore above the level of liquid therein, an elongated hollow casing for liquid having an opening at one end and a flexible diaphragm with a small access opening therein closing the open end of said casing, means detachably connecting said cap to said one end of said casing whereby when said cap and casing are connected, said tip portion engages through said access opening in said diaphragm to permit withdrawal of liquid from said reservoir, said piston actuatable to a retracted position when said cap is moved axially of said casing to remove said cap from said casing.

2. A dispenser unit comprising a generally cylindrical hollow casing open at one end defining a reservoir for a liquid, a diaphragm having an access opening therein closing the open end of said reservoir, a cap, means de-

tachably connecting said cap to said casing, an applicator device for dispensing a liquid comprising a member having a tip portion at one end with a bore of capillary dimension therethrough engageable through the opening in said diaphragm, a piston engageable in said bore and means providing a clearance between said piston and bore when the piston is in a retracted position to permit air to enter the bore above the level of liquid therein, means mounting said piston and member for axial movement relative to one another disposing said piston between an extended position in said capillary bore and a retracted position at least partially removed from said capillary bore, said piston operable upon relative actuation of said piston and member from said extended to said retracted position of said piston to draw liquid from said reservoir into said capillary bore means providing a clearance between said piston and said bore in the retracted position of said piston thereby to permit air to enter said bore above the level of liquid therein.

3. In a device for dispensing a liquid, a cap, an elongated member mounted in said cap having a bore therethrough and including a tip portion at one end with a bore section of capillary dimension, a piston engageable in said bore including a terminal portion engageable in said capillary bore section, means mounting said piston and member for axial movement relative to one another to dispose said piston between an extended position wherein said terminal section is disposed in said capillary bore and a retracted position wherein said terminal section is removed from said capillary bore, said piston operable upon relative actuation of said piston and member from said extended to said retracted position of said piston to draw liquid at least into said capillary bore when the free end of said tip portion is immersed in a body of liquid, means providing a clearance between said piston and said bore in the retracted position of said piston thereby to permit air to enter said bore above the level of liquid therein, an elongated hollow casing for liquid having an opening at one end and a flexible diaphragm with a small access opening therein closing the open end of said casing, means detachably connecting said cap to said one end of said casing whereby when said cap and casing are connected, said tip portion engages through said access opening in said diaphragm to permit withdrawal of liquid from said reservoir, said piston actuatable to a retracted position when said cap is moved axially of said casing to remove said cap from said casing.

4. In a device for dispensing a liquid, an elongated member having a tip portion at one end thereof and an axial bore extending therethrough which is stepped to define at least two bore sections, one bore section in said tip portion being of capillary dimension and the other bore section being of greater cross section, a piston of stepped configuration engageable in said bore having a lower terminal segment to snugly engage in said capillary bore section and an enlarged segment engageable in said other bore section, means mounting said piston and member for axial movement relative to one another disposing said piston between an extended position wherein said terminal segment engages in said capillary bore and a retracted position wherein said terminal segment is removed from said capillary bore, said piston operable upon relative actuation of said piston and member from said extended to said retracted position of said piston to draw liquid into said bore when the free end of said tip portion is immersed in a body of liquid, and means defining a flat on said enlarged segment of said piston which in the retracted position of said piston provides a clearance between the piston and said other bore section thereby to permit air to enter the bore above the level of liquid therein whereby when it is desired to release the liquid it may be done so readily.

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