

Nov. 23, 1965

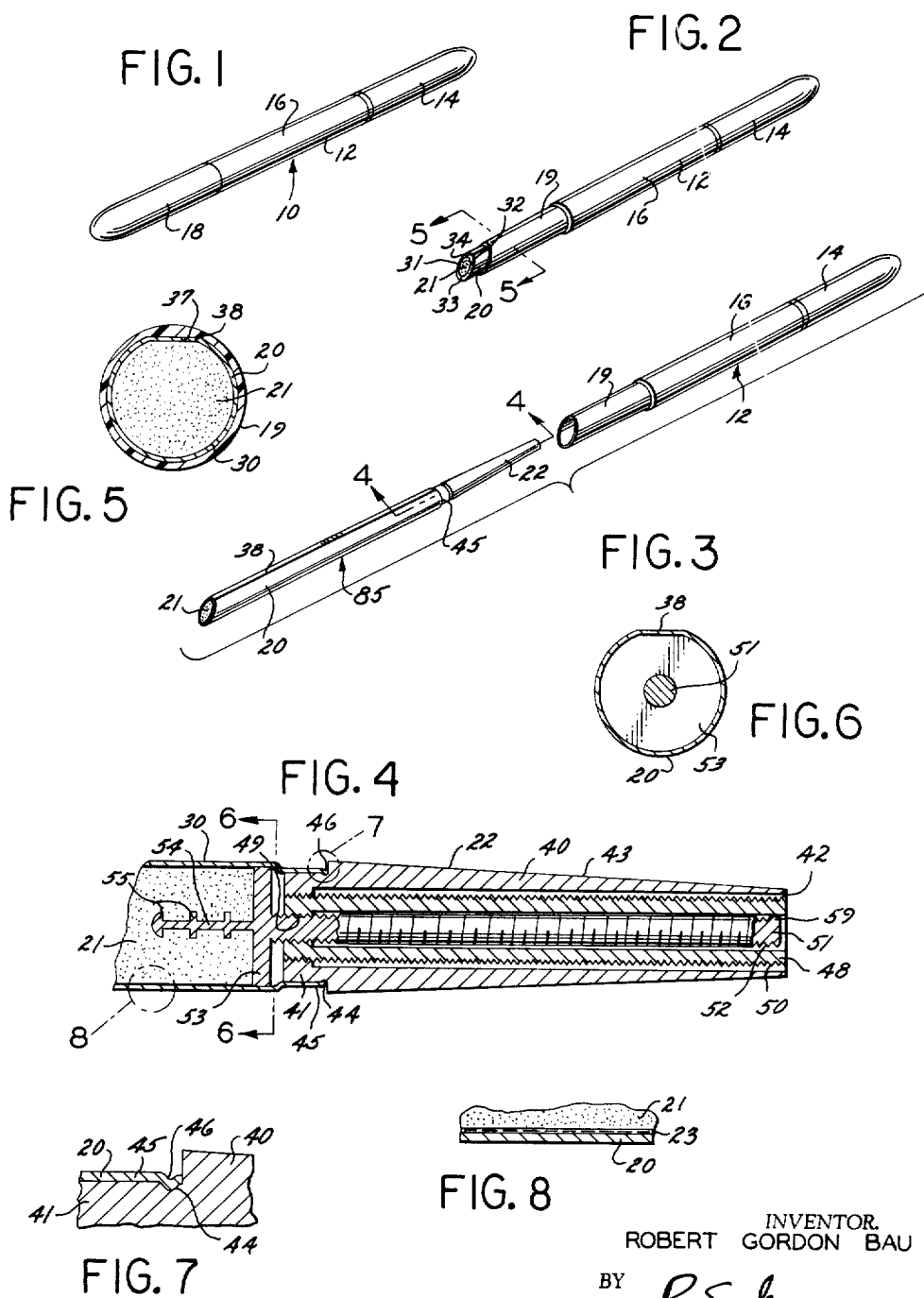
R. G. BAU

3,219,044

COSMETIC MAKE-UP DEVICE

Filed May 2, 1962

2 Sheets-Sheet 1



INVENTOR
ROBERT GORDON BAU
BY *R. E. Jeanque*
ATTORNEY

Nov. 23, 1965

R. G. BAU

3,219,044

COSMETIC MAKE-UP DEVICE

Filed May 2, 1962

2 Sheets-Sheet 2

FIG. 9

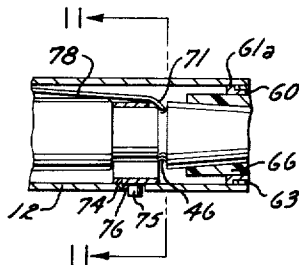
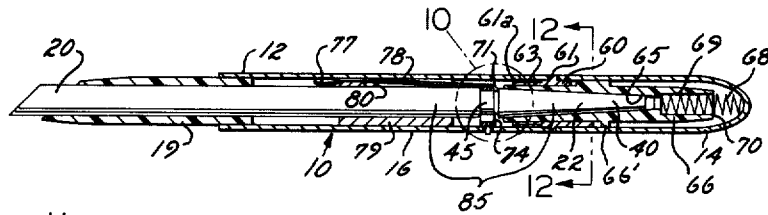


FIG. 10

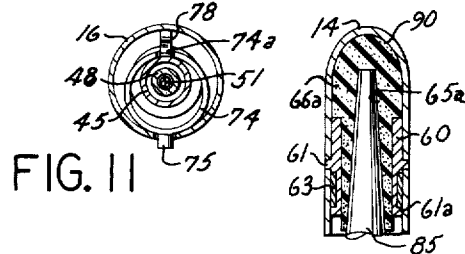


FIG. 11

FIG. 15

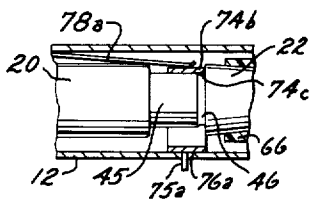
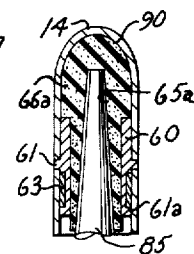


FIG. 13

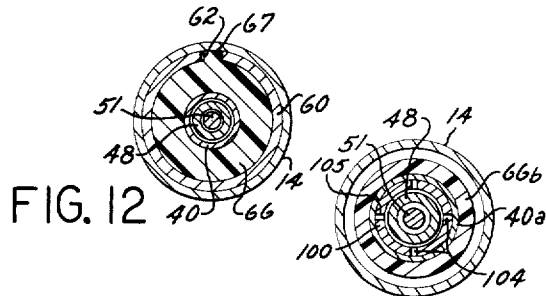


FIG. 12

FIG. 17

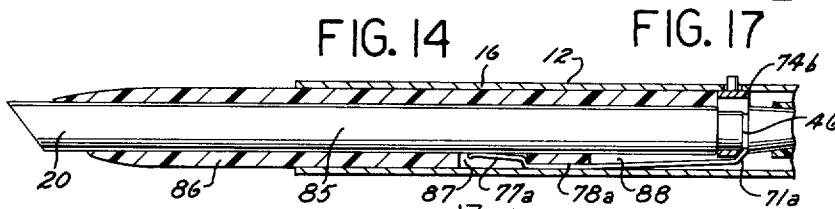
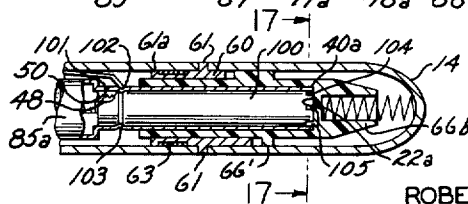


FIG. 14

FIG. 16



INVENTOR.
ROBERT GORDON BAU

BY *R. E. Beaugue*

ATTORNEY

1

3,219,044

COSMETIC MAKE-UP DEVICE

Robert Gordon Bau, 3271 Laurel Canyon Blvd.,
North Hollywood, Calif.

Filed May 2, 1962, Ser. No. 191,927

9 Claims. (Cl. 132-79)

This invention relates to cosmetic make-up devices and more particularly to a modified cosmetic make-up device for dispensing wax and oil base cosmetics of the type disclosed in my copending application Serial No. 164,834, filed January 8, 1962.

One embodiment of the invention disclosed in said copending application Serial No. 164,834 included a refill cartridge for a stick-type cosmetic dispenser which was mounted in an open topped housing having a bottom portion and an intermediate portion. The bottom portion included a bore and a serrated recess adapted to receive the propelling mechanism which formed part of the refill cartridge and propelled the cosmetic therefrom. The intermediate portion had one end rotatably connected to the bottom portion and had internal threads at the other end. A nib encompassed the end of the refill cartridge and threadedly engaged the internal threads of the intermediate portion. The nib was adapted to prevent rotation of the refill cartridge and had to be removed from the intermediate portion of the housing each time it was desired to replace the cartridge. Also, the refill cartridge could not be used independently of the housing.

The cosmetic make-up device of the present invention eliminates the separate nib and the necessity of removing it from the intermediate portion of the housing each time it is desired to remove a cartridge from the housing. In addition, a cosmetic make-up device of the present invention employs a new and useful locking and releasing mechanism which makes it possible to change refill cartridges in a minimum of time by the expenditure of a minimum of effort. Also, the refill cartridge is designed for use independently of the housing in one embodiment of the invention.

It is an object of the invention to provide a cosmetic dispensing device of the type having a quill which supports the cosmetic over its entire length and which includes new and useful means for locking the quill into a housing.

Another object of the invention is to provide a cosmetic dispensing device of the type described having an improved mechanism for locking the quill into the housing and quickly releasing the quill from the housing when it is desired to replace the quill.

Another object of the invention is to provide an improved quill and propelling mechanism for a cosmetic dispenser which may be used without a casing.

A further object of the invention is to provide a cosmetic dispenser of the type described having an improved propelling mechanism.

Yet another object of the invention is to provide a cosmetic dispenser of the type described having a spring loaded release mechanism which ejects a lipstick refill cartridge from the open end of the housing in such a manner that the end of the quill may be grasped and readily removed from the housing.

Still another object of the invention is to provide a braking mechanism for controlling the ejection of a refill cartridge from its housing.

Other more specific objects will appear upon reading the following specification and claims and upon considering in connection therewith the attached drawings to which they relate.

Referring now to the drawings in which preferred embodiments of the invention are illustrated:

FIGURE 1 is a perspective view of a cosmetic dispens-

2

ing device of the present invention with its end cap in position covering the exposed portion of the cosmetic;

FIGURE 2 is a perspective view of the cosmetic device of FIGURE 1 with its end cap removed;

FIGURE 3 is a perspective view of the cosmetic device of FIGURE 2 showing the refill cartridge disassociated from its housing;

FIGURE 4 is a longitudinal cross-sectional view on an enlarged scale taken along line 4-4 of FIGURE 3 showing the propelling mechanism of the cosmetic device of the invention;

FIGURE 5 is a transverse cross-sectional view, on an enlarged scale, taken along line 5-5 of FIGURE 2;

FIGURE 6 is a transverse cross-sectional view taken along line 6-6 of FIGURE 4;

FIGURE 7 is a detail of construction, on an enlarged scale, of the area enclosed within circle 7 of FIGURE 4;

FIGURE 8 is a detail of construction, on an enlarged scale, of the area enclosed within circle 8 of FIGURE 4;

FIGURE 9 is a longitudinal cross-sectional view on an enlarged scale of the cosmetic device of FIGURE 2;

FIGURE 10 is an enlarged view of the area enclosed within circle 10 of FIGURE 9;

FIGURE 11 is a transverse cross-sectional view taken along line 11-11 of FIGURE 10;

FIGURE 12 is a transverse cross-sectional view, on an enlarged scale, taken along line 12-12 of FIGURE 9;

FIGURE 13 is a cross-sectional view of a second embodiment of the details of construction shown in FIGURE 10;

FIGURE 14 is a longitudinal cross-sectional view of a modified form of a portion of the device shown in FIGURE 9;

FIGURE 15 is a cross-sectional view of an insert which may be used in connection with the device of FIGURE 9 in place of the spring biased insert shown therein;

FIGURE 16 is a longitudinal cross-sectional view of a modification of the details of construction shown in FIGURE 4;

FIGURE 17 is a transverse cross-sectional view taken along line 17-17 of FIGURE 16.

Referring again to the drawings, and particularly to FIGURES 1-8, a cosmetic make-up dispensing device constituting one embodiment of the present invention, generally designated 10, includes a housing 12 having a bottom portion 14, a tubular, intermediate portion 16, a removable cap 18 and a nib 19. The housing 12 houses a cartridge 85 including a quill 20 containing a wax and oil base cosmetic 21 of a relatively soft composition, such, for example, as lipstick, and a cosmetic propelling mechanism 22. The quill 20 may be of any suitable shape and is shown for purposes of illustration as being substantially circular in cross-section and is lined with a liner 23 having a low coefficient of friction of the type described in said copending application Serial No. 164,834. The liner 23 minimizes drag between the cosmetic 21 and the sidewall of the quill 20. Also, this drag may be virtually eliminated by coating the liner 23 with a suitable liquid lubricant, such as No. 200 Dow Silicone. The quill 20 includes an encompassing sidewall 30 which is open at both ends. The forward end of quill 20 is cut on an angle, preferably 45°, to define an opening 31 having a beveled peripheral edge 32. The lower edge 33 protrudes forwardly of the upper edge 34. The quill 20 is restrained against rotation in the housing 12 by means of the nib 19 which is rigidly affixed in one end of the intermediate portion 16 and has a circular bore with a flat upper face 37 which engages a similar flat face 38 on the quill 20. The nib 19 is press-fit into the intermediate portion 16 and need not be removed therefrom to insert the quill 20 into the housing 12.

The cosmetic propelling mechanism 22 includes a housing 40 having a reduced, internally-threaded neck portion 41, a cylindrical bore 42, a tapered, outer sidewall 43 and an annular groove 44. The reduced neck portion 41 rotatably engages a similar reduced neck portion 45 on the quill 20. An annular crimp 46 in the wall of the reduced neck portion 45 engages the groove 44 on the housing 40 in such a manner that the housing 40 may be rotated relative to the quill 20 without the parts becoming separated one from another. A first shaft 48 having internal threads 49 and external threads 50 threadably engages the internal threads of the neck portion 41. A second shaft 51 having external threads 52 threadably engages the internal threads 49 of the first shaft 48. The second shaft 51 is rigidly affixed to one side of a base plate 53 which is shaped to closely fit the interior surface of the wall 30 and the flat surface 38 of the quill 20. A third shaft 54 having projections 55 is rigidly affixed to the other side of the base plate 53 and is embedded into the cosmetic 21. The propelling mechanism 22 is provided with a left-hand thread so that the cosmetic 21 will be propelled forwardly by rotating the housing 40 in a clockwise direction, as is customary in conventional cosmetic devices. The projections 55 pull the cosmetic 21 back into the quill 20 when the housing 40 is rotated in a counterclockwise direction. The threads 49, 50 and 52 may be given a pitch of 56 threads to the inch so that one turn of housing 40 will expose one application of cosmetic at the opening 31 of quill 20. Friction between the internal threads of the reduced neck portion 41 and the external threads 50 of the shaft 48 prevents the shaft 48 from rotating until enough resistance is met to overcome the friction. Since the second shaft 51 is prevented from rotating by the base plate 53, rotation of the shaft 48 while being constrained by the friction between the aforementioned threads causes the internal threads 49 of shaft 48 to move the second shaft 51 forwardly in the quill 20. When the second shaft 51 reaches the end of its travel, it is prevented from further movement by a lug 59 which cannot engage the internal threads 49. Continued rotation of the housing 40 will overcome the friction between the internal threads of the reduced neck portion 41 and the external threads 50 permitting the shaft 48 to advance forwardly through the internal threads of the neck portion 41. The length of the shafts 48 and 51 is such that one half the cosmetic 21 will be dispensed by the time the second shaft 51 reaches the limit of its travel and the second half of the cosmetic 21 will be dispensed by the time the first shaft 48 reaches the end of its travel.

Referring now to FIGURES 9-12, a tubular sleeve 60 having a first annular collar 61 intermediate its ends, a slot 62 extending from one end to a point adjacent the first collar 61, and a second annular collar 61a at its other end is press-fit into the open end of the bottom portion 14 of housing 12 in such a manner that the first annular collar 61 abuts the edge of the open end in the bottom portion 14. A bushing 63 is rotatably mounted on the sleeve 60 between the collars 61 and 61a, and is press-fit into one end of the intermediate portion 16 of housing 12 so that the intermediate portion 16 may be rotated with respect to the bottom portion 14.

The housing 40 of the cosmetic propelling mechanism 22 frictionally engages a tapered bore 65 in one end of an insert 66 which is slidably mounted in the bottom portion 14 of the housing 12. The insert 66 is of a generally cylindrical shape and includes a flute 67 which engages the slot 62 in the sleeve 60. Thus, rotation of the bottom portion 14 rotates the sleeve 60 which rotates the insert 66 through engagement of the flute 67 with slot 62. This, in turn, rotates the housing 40 of the propelling mechanism 22 through frictional engagement with the tapered bore 65. The insert 66 is biased toward the housing 40 by means of a compression spring 68 which bears against the wall of the bottom portion 14 and a shoulder 69 seated

at the bottom of an internal bore 70 in another end of the insert 66. The spring 68 exerts sufficient force on the insert 66 to force the quill 20 to the left, as viewed in FIGURE 9, so that it may, when desired, protrude enough from the end of nib 19 to afford convenient access to the quill 20 for ease in removing it from the housing 12. The insert 66 is prevented from coming out of the bottom portion 14 by an annular collar 66' which strikes the sleeve 60 when the insert 66 is forced to the left by spring 68. The quill 20 is retained in a proper position in the housing 12 against the pressure of the spring 68 by means of a leaf spring 78 having a detent 71 at one end which engages the crimp 46 in the reduced neck portion 45 of the quill 20. Engagement of the detent 71 with the crimp 46 also restrains the housing 40 from accidental rotation. A brake 77 is an integral part of the leaf spring 78 and is located at the end thereof, which is remote from the detent 71. The brake 77 exerts a frictional drag on the quill 20 so that it will not be completely ejected from the housing 12 when the detent 71 is lifted from the crimp 46. The spring 78 is rigidly affixed to a sleeve 79 which is press-fit into the intermediate portion 16 of the housing 12 and which slidably engages the quill 20. The sleeve 69 also includes a longitudinal slot 80 which extends from one end thereof to a point near its other end. The spring 78 is rigidly affixed to the sleeve 79 in such a manner that one end of the spring 78 extends through the slot 80 so that the detent 71 engages the crimp 46 and the other end of the spring 78 extends past the end of the sleeve 79 remote from the slot 80 into engagement with the quill 20.

The nib 19 is press-fit into the intermediate portion 16 of the housing 12 remote from the end carrying the bushing 63. The intermediate portion 12 rotates with respect to the bottom portion 14 of the housing 12 by virtue of the fact that the sleeve 60 is press-fit into the bottom portion 14 while the bushing 63 is rotatably mounted on the sleeve 60. The insert 66 may slide longitudinally with respect to the bottom portion 14 with the flute 67 sliding within the slot 62. Thus, the cartridge 85 will move longitudinally with respect to the housing 12 by virtue of the fact that it is connected to the insert 66 and will be free to be removed therefrom when the collar 66' strikes the sleeve 60.

A collar 74 (FIGURE 10) including a notch 74a and an integral push button 75 is loosely mounted on the reduced neck portion 45 of the quill 20 in such a manner that the detent 71 depends through the notch 74a and the button 75 extends through an aperture 76 in the intermediate portion 16 of the housing 12. The diameter of the collar 74 is sufficiently greater than the diameter of the reduced neck 45 so that the button 75 may be depressed moving the collar upwardly with respect to the neck portion 45 and raising the spring biased detent 71 sufficiently to release it from engagement with the crimp 46. The spring 68 will then move the cartridge 85 to the left, as viewed in FIGURE 9, a predetermined distance which is governed by the force exerted by spring 68 in opposition to the frictional drag of brake 77.

The cartridge ejecting and braking mechanism comprising the compression spring 68, the ring 74, the leaf spring 78, the detent 71 and the brake 77 is an important feature of the invention and permits the user of the cosmetic device 10 to change the cartridge 85 as a unit without touching the cosmetic 21 which will ordinarily be smeared about the opening 31 in the quill 20. When the cosmetic being dispensed by the cartridge 85 constitutes a lipstick, it is important that the cartridge 85 be readily placed in and removed from, the housing 12 because a number of different shades of lipstick may be used in a single day to enhance the different modes of dress of the user of the lipstick throughout the day. Since the housing 12 and cap 18 are often jeweled or otherwise expensively decorated, it is desirable to retain them for use over and over again and this repeated use is expedited and made more con-

5

venient by employing the expelling and braking mechanism of the present invention.

Referring now to FIGURE 13, a spring 78a biases a collar 74b in such a manner that a shoulder 74c on the collar 74b is depressed into engagement with the crimp 46 when a lipstick device 10 is in normal use. A button 75a is affixed to the collar 74b and extends through an aperture 76a in the intermediate portion 16 of housing 12. When the button 75a is depressed into the housing 12, the upper perimeter of the collar 74b raises the spring 78a and the collar 74b is of sufficiently greater diameter than the reduced neck portion 45 of the quill 20 so that the propelling mechanism 22 is free to slide through the collar 74b.

Referring now to FIGURE 14, a unitary nib and spring carrying member 86 may be press-fit into the intermediate portion 16 of the housing 12 instead of the nib 19 and sleeve 79 shown in FIGURE 9, and a quill 20 may be non-rotatably mounted therein. It is to be understood, that the quill 20 and the unit 86 will have the same interior bore as shown in FIGURE 5. A first slot 87 is formed in the wall of the nib and spring carrying member 86 permitting a brake 77a, forming an integral part of the release spring 78a, to extend through the slot 87 into engagement with the quill 20. A second slot 88 may be provided in the unit 86 so that a detent 71a at the end of the spring 78a, remote from the brake 77a, may extend therethrough in engagement with the crimp 46. A collar 74b may be employed to lift the detent 71a from the crimp 46 when it is desired to eject the cartridge 85 from the housing 12.

Referring now to FIGURE 15, the insert 66, and spring 68, shown in FIGURE 9, may be dispensed with by employing a resilient insert 66a which has a tapered bore 65a adapted to frictionally engage the housing 40 of the propelling mechanism 22 and which includes an outer wall 90 of sufficient size and resiliency to be compressed into the bottom portion 14 of housing 12 with sufficient compactness to frictionally grip the housing 40 and retain the cartridge 85 in position within the housing 12. Of course, it is to be understood that the collar 74, detent 71 and brake 77 may also be dispensed with when insert 66a is employed.

Referring now to FIGURE 16, a modified cartridge 85a and insert 66b are shown for use in a cosmetic device which is otherwise identical with the one shown in FIGURE 9. The cartridge 85a includes a quill 20a which has an integral housing 40a which does not rotate with respect thereto, as was the case with the housing 40 and the quill 20 in FIGURE 9. A propelling mechanism 22a, having threaded shafts 48 and 51 which are identical with the ones shown in FIGURE 4, may also be employed. The propelling mechanism 22a also includes a sleeve or bushing 100 which has internal threads 101, which engage the external threads 50 on the shaft 48. The sleeve 100 is rotatably mounted inside the housing 40a and is retained in position therein by means of an annular crimp 102 in the housing 40a which engages a similar annular crimp 103 in the bushing 100. The bushing 100 is rotated by the insert 66b which includes depending protuberances 104 which engage similarly shaped slots 105 at the end of sleeve 100, remote from the thread 101.

While the particular cosmetic make-up dispensing devices herein shown and described in detail are fully capable of attaining the objects and providing the advantages hereinbefore stated, it is to be understood that they are merely illustrative of the presently preferred embodiments of the invention and that no limitations are intended to the details of construction or design herein shown other than as defined in the appended claims.

What is claimed is:

1. In combination with a device for dispensing wax and oil base cosmetics of relatively soft composition including a first housing having an internal bore, a second housing rotatably connected to said first housing, and a cosmetic containing cartridge non-rotatably mounted in said second

6

housing, said cartridge including a quill, cosmetic propelling means slidably mounted in said quill, and threaded means operatively connecting said propelling means to said first housing for sliding said propelling means longitudinally within said quill when said first housing is rotated relative to said second housing; means for ejecting said cartridge from said first and second housings comprising:

a spring means mounted in said first housing in such a manner that it bears against a wall of said first housing and exerts a force against the end of said cartridge biasing said cartridge away from said wall; a spring biased detent mounted in said second housing in engagement with said cartridge, whereby said cartridge is restrained against the bias of said spring means; and

a detent releasing means mounted in said second housing for releasing said detent from engagement with said cartridge, whereby said spring means ejects said cartridge from said housings.

2. In combination with a device for dispensing wax and oil base cosmetics of relatively soft composition including a first housing having an internal bore, a second housing rotatably connected to said first housing, a cosmetic containing quill mounted in said second housing, a nib encompassing said quill, said nib being non-rotatably connected to said second housing and engaging said quill in such a manner that it restrains rotation thereof when said first housing is rotated relative to said second housing, cosmetic propelling means slidably mounted in said quill, and threaded means operatively connecting said propelling means to said first housing for sliding said propelling means longitudinally within said quill when said first housing is rotated relative to said second housing; means for ejecting said quill from said first and second housings and said nib comprising:

a compression spring mounted in said first housing in such a manner that it bears against a wall of said first housing and exerts a force against said quill;

a collar encircling said quill, said collar having a shoulder and being of substantially greater diameter than said quill; and

a leaf spring mounted in said second housing in such a manner that it biases said shoulder into engagement with said quill.

3. The combination of claim 2, said ejecting means including also a spring biased brake in frictional contact with said quill.

4. The combination of claim 2, said ejecting means including also a brake mounted on said leaf spring at its end remote from said collar.

5. A device for dispensing wax and oil base cosmetics of relatively soft composition comprising:

a first housing having an open top, an encompassing sidewall and a closed bottom;

an insert slidably mounted in said first housing, said insert including a tapered bore and being biased away from the closed bottom of said first housing;

a second housing having a non-cylindrical bore;

means for rotatably connecting said insert to said second housing and preventing rotation of said insert within said first housing while permitting movement of said insert with respect to the longitudinal axis of said first housing;

a cosmetic containing quill non-rotatably mounted in said second housing;

cosmetic propelling means operatively connected to said quill, said propelling means including a third housing having a tapered wall adapted to frictionally engage said tapered bore in said insert;

a detent mounted in said second housing for engaging said quill and retaining it in position therein against the bias of said spring; and

a collar encircling said quill subjacent said detent for releasing it from engagement with said quill when it is desired to remove said quill from said second housing.

6. The device of claim 5 including also a spring biased brake frictionally engaging said quill with sufficient pressure to control the rate of ejection of said quill from said second housing when said detent is released.

7. A device for dispensing wax and oil base cosmetics of relatively soft composition comprising:

- a first open-topped housing having an encompassing sidewall and a closed bottom;
- a first tubular sleeve rigidly mounted in the open end of said first housing and having one end extending therefrom, said first sleeve including a slot extending longitudinally along the inner wall of said first housing, a first collar encircling said first sleeve adjacent the open end of said first housing, and a second collar encircling said sleeve at its end which extends from said open end of said first housing;
- an insert slidably mounted in said first sleeve, said insert including a spring-receiving bore at one end, a tapered bore at its other end and a flute, said flute slidably engaging the slot in said first sleeve;
- a compression spring mounted in said spring-receiving bore and bearing against the bottom wall of said first housing biasing said insert away from said bottom wall;
- a bushing rotatably mounted on said first sleeve intermediate said first and second collars;
- a second housing having an encompassing sidewall and open ends, one of said open ends being rigidly affixed to said bushing, whereby rotation of said second housing rotates said bushing upon said first sleeve;
- a nib rigidly affixed in the other end of said second housing, said nib including a non-circular bore;
- a second tubular sleeve rigidly mounted in said second housing intermediate said ends, said second sleeve including a longitudinally extending slot extending from one end of said second sleeve to a point adjacent its other end;
- a leaf spring rigidly affixed to said second sleeve at its said other end and superjacent said slot, said leaf spring including a detent at one end and a brake at its other end;
- a cosmetic containing quill slidably mounted in said second sleeve, said quill having a non-circular, encompassing sidewall conforming in shape to the bore in said nib, said quill including a cosmetic propelling mechanism having a third housing with a tapered exterior sidewall adapted to frictionally engage the tapered bore in said insert, said third housing being rotatably connected to said quill, and
- a third collar encircling said quill subjacent said leaf spring and adjacent said detent.

8. A device for dispensing wax and oil base cosmetics of relatively soft composition comprising:

- a first open-topped housing having an encompassing sidewall and a closed bottom;
- a tubular sleeve rigidly mounted in the open end of said first housing and having one end extending therefrom, said sleeve including a slot extending longitudinally along the inner wall of said first housing, a first collar encircling said sleeve adjacent the open

end of said first housing, and a second collar encircling said sleeve at its end which extends from said open end of said first housing;

- an insert slidably mounted in said sleeve within said first housing, said insert including a spring-receiving bore at one end, a tapered bore at its other end and a flute, said flute slidably engaging the slot in said sleeve;
- a compression spring mounted in said spring-receiving bore and bearing against the bottom wall of said first housing biasing said insert away from said bottom wall;
- a bushing rotatably mounted on said sleeve intermediate said first and second collars;
- a second housing having an encompassing sidewall and open ends, one of said open ends being rigidly affixed to said bushing, whereby rotation of said second housing rotates said bushing upon said sleeve;
- a nib rigidly affixed in said second housing and extending from said other end thereof, said nib having a non-circular bore and spaced, rectangular slots, said slots being disposed within said second housing;
- a leaf spring mounted in said housing adjacent said nib, one end of said leaf spring including a brake which extends through one of said slots in said nib, the other end of said leaf spring extending through the other slot in said nib;
- a cosmetic containing quill slidably mounted in said nib, said quill having a non-circular, encompassing sidewall conforming in shape to the bore in said nib, said quill including a propelling mechanism having a third housing with a tapered exterior encompassing sidewall adapted to frictionally engage the tapered bore in said insert, said third housing being rotatably connected to said quill; and
- a third collar encircling said quill subjacent said other end of said leaf spring.

9. The device of claim 7 wherein said insert has a spring-receiving bore at one end and protuberances at its other end and wherein said propelling mechanism includes an outer housing rigidly affixed to said quill and an inner housing rotatably mounted in said outer housing, said inner housing including apertures adapted to engage said protuberances.

References Cited by the Examiner

UNITED STATES PATENTS

910,970	1/1909	Stryker	132—84
1,860,911	5/1932	Trimble	132—84
2,347,960	5/1944	Moxley	132—88.7
2,461,790	2/1949	Vaughn	132—88.7
2,671,580	3/1954	Henson	206—56
2,815,123	12/1957	Safianoff	206—56
2,885,780	5/1959	Campbell	120—42.03 X

FOREIGN PATENTS

36,478 8/1886 Germany.

RICHARD A. GAUDET, *Primary Examiner*.

LOUIS J. DEMBO, *Examiner*.