

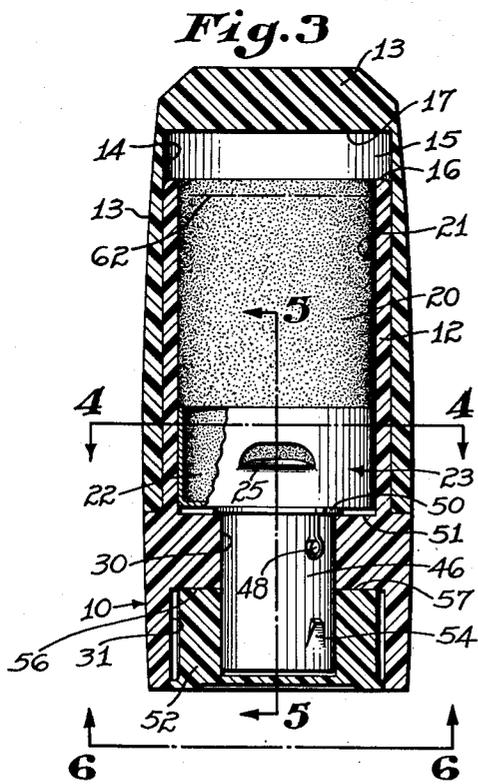
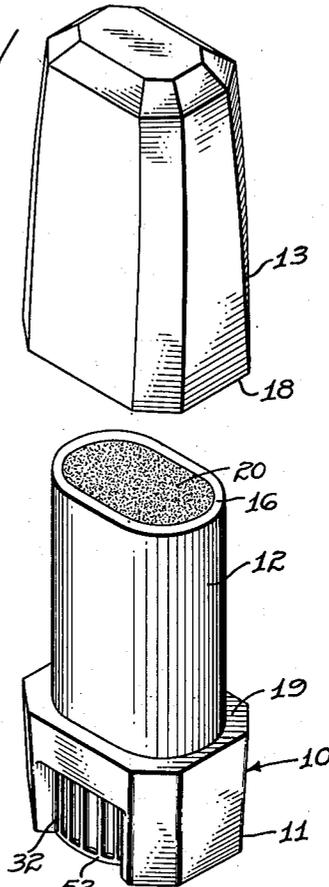
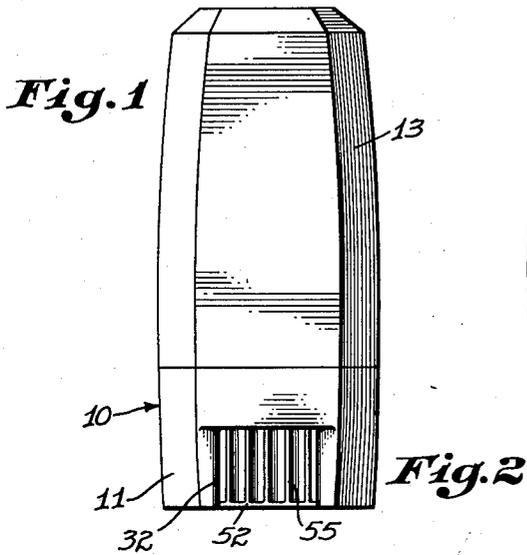
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COSMETIC HOLDER

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2 SHEETS—SHEET 1



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COSMETIC HOLDER

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This invention relates to cosmetic holders or dispensers and is particularly adapted for use in connection with creams, pastes, and other cosmetic preparations.

The principal object of this invention is to provide an improved form of holder having a rotary actuator member adapted to advance a noncircular cosmetic carrier within a casing.

Another object is to provide a dispenser for creams, pastes and the like of relatively low consistency or of "tacky" or sticky nature.

Another object is to provide a cosmetic holder or dispenser of this type having a plurality of nested sleeves of novel type and of relatively short length cooperating to produce a relatively long travel for the cosmetic carrier.

Another object is to provide a novel form of advancing mechanism for a cosmetic carrier employing cooperating sleeve assemblies, each including a longitudinally split cam sleeve enclosed within an encircling tubular shell.

Another object is to provide rotary driven advancing mechanism for a cosmetic carrier which is well adapted to economical production in quantity and which is rugged in design and not apt to get out of order.

Other objects and advantages will appear hereinafter.

In the drawings:

Figure 1 is a side elevation of a cosmetic holder or dispenser embodying a preferred form of my invention.

Figure 2 is a perspective view of the device showing the cover removed.

Figure 3 is a sectional elevation showing the cover in place.

Figure 4 is a sectional plan view taken substantially on the lines 4—4 as shown in Figure 3.

Figure 5 is a sectional elevation partly broken away taken substantially on the lines 5—5 as shown in Figure 3.

Figure 6 is a plan view partly in section taken substantially on the lines 6—6 as shown in Figure 3.

Figure 7 is a perspective view partly broken away showing the advancing and retracting mechanism in extended position.

Figure 8 is an exploded perspective view showing the individual parts of the advancing and retracting mechanism.

Figure 9 is a plan view of one of the cam sleeves before being rolled into cylindrical form.

Referring to the drawings, the base 10 includes a lower housing portion 11 and an upwardly extending noncircular tube or casing 12. A cover

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13 is provided with a noncircular bore 14 adapted to receive the casing 12 in telescopic relation. The bore 14 is preferably longer than the casing 12 in order to provide a clearance space 15 between the upper end 16 of the casing 12 and the end wall 17 within the cover 13. When the cover is in position on the casing 12 the lower end 18 of the cover is adapted to rest on the shoulder 19 at the junction of the casing 12 and housing portion 11 of the base 10. A paste or cream filler element 20 is adapted to fit in sliding relation within the noncircular bore 21 in the casing 12, and its lower end 22 is reduced in size to fit within the carrier 23. The filler element 20 preferably fits closely within the bore 21 and may have little or no clearance with respect thereto.

The carrier 23 is provided with a continuous upwardly extending wall 24 adapted to encircle the lower end 22 of the filler element 20, and a pair of tabs 25 cut from the wall 24 may be deflected inwardly to prevent disassembly of the filler element 20 from the carrier 23. The bottom wall 26 of the carrier 23 is provided with a central angularly shaped aperture 27 adapted to receive the upward tubular knob 28 provided on the carrier extension or tubular post 29. The post 29 is connected to the carrier 23 by inserting the knob 28 through the aperture 27 and then deforming it as shown in Figure 5 at 28a, thereby forming a rigid connection between the carrier 23 and the post 29. These parts then function as a single integral unit. The carrier 23 is adapted to slide vertically within the bore 21 of the casing 12, but relative rotary motion is prevented because the parts are noncircular in cross section.

The housing portion 11 of the base 10 is provided with a central cylindrical bore 30 and an axially aligned cylindrical counterbore 31. The counterbore 31 is of greater diameter than the width of the base 10, and accordingly the counterbore 31 is not continuous but is interrupted by lateral windows 32 as shown in Figures 1, 4 and 6. The carrier extension or tubular post 29 extends downwardly through the bore 30 and into the counterbore 31 when the carrier 23 is in its retracted position.

Means are provided for advancing and retracting the carrier 23 within the bore 21 of the casing 12, and as shown in the drawings this means includes a plurality of concentric sleeve assemblies 33 and 34 encircling the carrier extension 29. The inner sleeve assembly 33 comprises a cam sleeve 35 split longitudinally at 36 and provided with a helical groove 37. The assembly 33 also

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includes the shell 38 which is tubular in form and adapted to enclose the cam sleeve 35. A lateral projection or cam follower 39 formed on the tubular post or carrier extension 29 extends outwardly into the helical cam groove 37 provided on the split sleeve 35. A boss 40 extending outwardly from the split sleeve 35 is adapted to be received within the recess 41 provided in the wall of the tubular enclosing shell 38. A slot 42 may be provided which extends from the upper end of the shell 38 to the recess 41 in order to facilitate assembly of the split sleeve 35 within the enclosing shell 38. When thus assembled the split sleeve 35 and enclosing shell 38 function as an integral sleeve member.

In like fashion the outer sleeve assembly 34 comprises a cam sleeve 43 vertically split as shown at 44 and provided with a helical cam groove 45. A lateral projection or cam follower 61 provided on the enclosing shell 38 extends into the helical groove 45. An enclosing shell 46 which is tubular in form is adapted to encircle the split sleeve 43 and to be connected therewith by means of the recess 47 which receives the boss 48 on the split sleeve 43. Assembly of the split sleeve 43 into the enclosing shell 46 is facilitated by means of the slot 49 extending from the upper end of the shell 46 to the recess 47. A laterally extending flange 50 on the upper end of the shell 46 is adapted to rest on the shelf 51 provided at the lower end of the bore 21 of the casing 12. An actuator knob 52 is provided with a central opening 53 adapted to receive the shell 46 tightly therein. Friction lips 54 may be provided on the shell 46 and extend outwardly therefrom to increase the frictional grip between the bore 53 and shell 46. When thus assembled the actuator knob 52, shell 46 and split cam sleeve 43 function as a single integral sleeve member.

The knob 52 is rotatable within the counter-bore 31, and portions of its fluted periphery 55 are accessible through the lateral windows 32 in the housing portion of the base 10. The upper surface 56 of the knob 52 rests against the downwardly facing abutment 57 on the housing portion 11 of the base 10. Downward movement of the knob 52 is prevented by the frictional contact with the enclosing shell 46, and upward movement of the knob 52 is prevented by contact with the abutment 57. The housing portion 11 which partially encloses the knob 52 prevents lateral forces applied to the knob from imposing objectionable bending stresses on the cylindrical shell 46. The knob is prevented from moving laterally by its contact with the recess or counter-bore 31. Each of the split cam sleeves 35 and 43 is preferably formed from a flat sheet as indicated at 58. The sheet may be formed of any suitable material such as, for example, metal and may be punched to form the slot 59 and dimple 60. It will be observed that the slot 59 is closed at both ends. The sheet may be then rolled into a cylinder to form the cam sleeve 35 or 43, the slot 59 becoming a helical cam groove and the dimple 60 forming an externally protruding boss.

In operation the mechanism for advancing and retracting the carrier 23 within the noncircular bore 21 operates as follows: The actuator knob 52 may be rotated by means of the user's fingers which may contact the fluted periphery 55 through the ports or windows 32. Rotation of the actuator knob 52 causes rotation of the outer sleeve assembly 34, the enclosing shell 46 and split cam sleeve 43 rotating with the knob 52 as a unit. Rotation of the split cam sleeve 43 effects

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vertical travel of the tubular post 29 and carrier 23. Since the carrier 23 slidably engages the noncircular bore 21 rotation of the carrier 23 and extension 29 cannot occur, and accordingly, rotation of the knob 52 causes one of the cam followers 39 or 61, or both, to travel in their respective cam grooves 37 and 45.

Friction characteristics of the cam followers 61 and 39 and cam grooves 45 and 37 determine which of the sleeve assemblies 34 or 33 rotate or whether both rotate simultaneously, but in any event the post 29 and carrier 23 move upwardly within the bore 21. Assuming that the inner sleeve assembly 33 does not rotate with the initial rotation of the knob 52, the cam follower 61 is caused to move upwardly along the helical slot 45 in the cam sleeve 43 as the latter rotates with the knob 52. When the cam follower 61 reaches the end of the helical groove 45 the shell 38 and split cam sleeve 35 are caused to rotate. The cam follower 39 on the tubular post 29 then rides upwardly in the helical cam groove 37 in the split cam sleeve 35. The upper limit of movement is reached when the cam followers 61 and 39 arrive at the upper ends of their respective helical cam grooves.

The carrier 23 is retracted downwardly within the noncircular bore 21 upon rotation of the actuator knob 52 in the opposite direction. In such event the cam followers 39 and 61 travel downwardly within their respective cam grooves until the inner and outer sleeve assemblies 33 and 34 are fully retracted as shown in Figure 5. Since the helical cam grooves 37 and 45 are usually enclosed by an encircling shell 38 and 46 respectively, the cam followers 61 and 39 are separated by solid walls and thereby any possible interference is avoided. The provision of the lips 25 on the carrier 23 serves to effect retraction of the filler element 20 within the noncircular bore 21 and avoids the possibility of relative sliding movement between the carrier 23 and filler 20.

It is contemplated that the filler element 20 may comprise a cosmetic cream or paste suitable for application to the skin of the user to serve as a foundation for other cosmetic preparations such as powder or rouge. The user may dip her fingers into the cosmetic paste and then apply it to several locations on the skin, blending it out in the usual fashion. The oval or generally elliptical shape of the noncircular bore 21 facilitates easy access of the fingers to the cosmetic paste 20. Such paste may be of relatively low melting point and may therefore be "tacky" or sticky. The noncircular bore 21 and carrier 23 serve to prevent rotation of the filler element 20 within the casing 12 and hence no clearance is necessary between the filler element 20 and the bore 21. Accordingly, a more stable support is provided for the filler element 20 than if such clearance were necessary in order to accommodate the relative rotary movement. This additional supporting effect is particularly useful for sticky or "tacky" pastes and creams.

It will be noted that the construction of the casing 12 and carrier 23 is free from grooves, pins, slots, etc., and that leakage or plastic flow of cosmetic cream into the advancing mechanism is effectively prevented. It will be observed also that the total travel of the carrier 23 is substantially greater than the overall length of the nesting sleeves constituting the advancing mechanism. Thus when the carrier 23 is in its fully extended position the upper edge thereof assumes the position indicated by the dashed line 62 in

Figure 5. It is recognized that a greater number of interfitting sleeve assemblies may be employed if desired in order to increase the total travel of the carrier 23 or to decrease the overall length of the sleeve assemblies. Thus while only two sleeve assemblies 33 and 34 are shown in the drawing, it is possible to use three or four such assemblies if desired. The full amount of travel made available by any one particular cam sleeve is accomplished by turning the actuator knob through an angular travel somewhat less than a full revolution. By employing two, three, four or more cam sleeves the knob may be rotated through any desired number of revolutions to correspond with the desired travel of the carrier.

While any suitable or desirable materials for the cosmetic holder and advancing mechanism may be employed, I have found that plastic materials such as, for example, polystyrene are well suited for the base 10, cover 13 and knob 52, whereas the carrier 23, tubular post 29 and sleeve assemblies 33 and 34 are preferably formed of thin gage metal such as, for example, steel.

Having fully described my invention, it is to be understood that I do not wish to be limited to the details herein set forth, but my invention is of the full scope of the appended claims.

I claim:

1. In a dispenser for creams, pastes and the like, the combination of: a base provided with a noncircular bore open at its upper end; a carrier mounted for axial sliding movement within the bore and shaped to conform thereto; advancing means for sliding the carrier axially of said bore, said advancing means including a cylindrical extension on the carrier; a plurality of telescoping sleeve assemblies mounted coaxially of the carrier extension; helical screw means connecting adjacent sleeve assemblies in rotatable relation and connecting the innermost sleeve assembly to said carrier extension; and means for rotating the outermost sleeve assembly, each of said sleeve assemblies including an axially split sleeve having a helical cam groove enclosed within a separate tubular shell in non-rotatable relation therewith.

2. In a dispenser for cosmetic creams, pastes and the like, the combination of a relatively stationary base having an upwardly extending oval bore open at its upper end; an oval carrier slidably mounted for axial movement within the bore and adapted to discharge cosmetic cream or paste through the open end of said bore; means for advancing the carrier axially of the bore, said means including a tubular post extending axially of the carrier and provided with a laterally projecting cam follower; a sleeve assembly encircling the tubular post; means including a rotary actuator adapted to rotate said sleeve assembly, the sleeve assembly including an axially split inner sleeve having a helical cam groove enclosed within a separate tubular shell in non-rotatable relation.

3. Apparatus for advancing a carrier axially within a cosmetic dispenser, comprising in combination: a plurality of telescoping rotary sleeve assemblies each having an axially split cam sleeve provided with a helical groove closed at its ends and a tubular shell enclosing the split cam sleeve; means for maintaining each pair of sleeves and shells in assembled relation comprising a projection on one extending into a recess formed on the other; the helical groove on the innermost split cam sleeve being adapted to receive a cam follower element on the carrier, and a laterally pro-

jecting cam follower element on at least one of the enclosing shells adapted to be received within the helical cam groove of an encircling split cam sleeve; and a rotary actuator fixed relative to the outermost sleeve assembly.

4. In a dispenser for creams, pastes and the like, the combination of: a base provided with aligned axial bores, a first of the bores being open at its upper end, the base having a shoulder at the junction of said bores, a carrier mounted for axial sliding movement within the first bore and shaped to conform thereto, advancing means for sliding the carrier axially of the first bore, said advancing means including a cylindrical extension on the carrier, a plurality of telescoping sleeve assemblies mounted coaxially of the carrier extension, helical screw means connecting adjacent sleeve assemblies in rotatable relation and connecting the innermost sleeve assembly to the carrier extension, the outermost sleeve assembly being journaled for rotation within the second of the bores and having a flange at its upper end engaging the shoulder, the second bore terminating in an abutment, an actuator knob engaging the abutment and having a central opening telescopically receiving a portion of the outermost sleeve assembly in driving relation.

5. In a cosmetic dispenser the combination of: a base having an upwardly extending casing provided with a central noncircular bore open at its upper end, a noncircular carrier mounted for sliding movement in said noncircular bore, the base having a housing portion of greater width than thickness, the housing having a cylindrical recess open at the lower end thereof positioned in coaxial relationship with said noncircular bore and having a diameter larger than the thickness of the housing to define access windows on opposite sides thereof, the housing having a cylindrical bore extending coaxially between the noncircular bore and the recess, a cylindrical sleeve journaled in said cylindrical bore and projecting downward into said recess, a rotary actuator knob insertable axially into the lower open end of the recess and having a central opening for receiving the sleeve in driving engagement, screw means operatively connecting the sleeve and the carrier to advance the carrier in the noncircular bore upon rotation of the actuator knob, the outer periphery of the knob being slidably received within the recess to prevent lateral bending forces from being applied to said sleeve.

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