

May 25, 1948.

J. W. ANDERSON

2,442,109

LIPSTICK HOLDER WITH DIVERSE EXPELLANT PARTS

Filed Jan. 2, 1945

2 Sheets-Sheet 1

Fig. 2

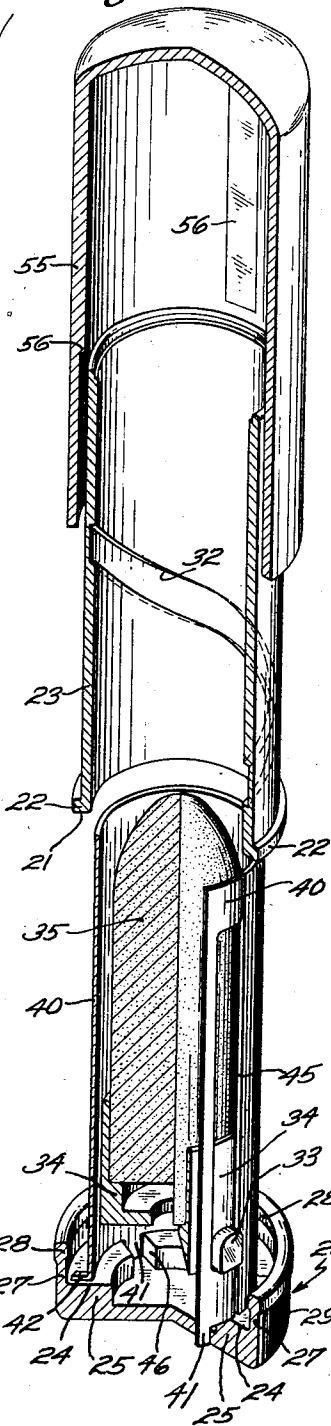


Fig. 1

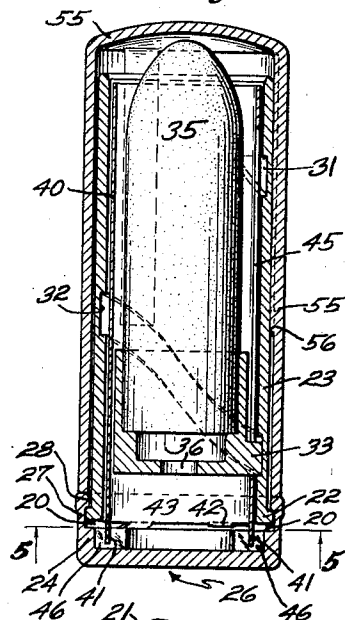


Fig. 4

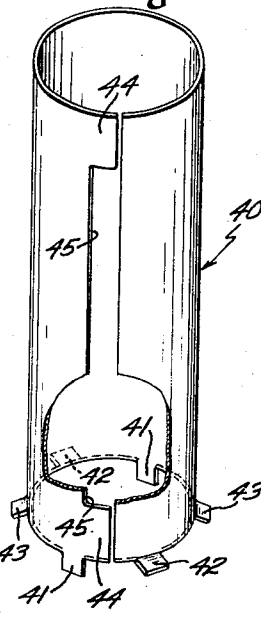


Fig. 6

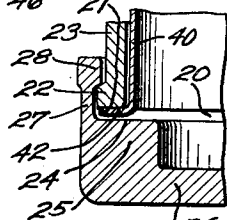


Fig. 3

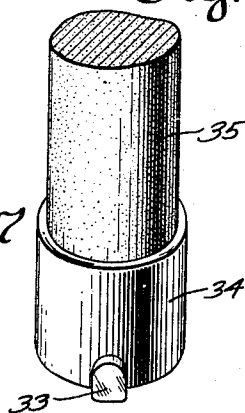


Fig. 7

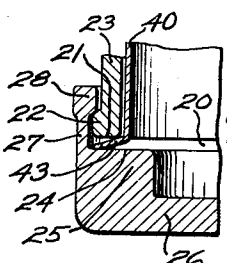
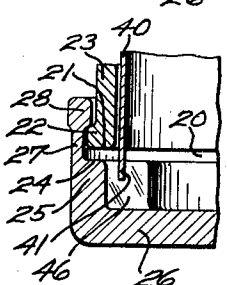


Fig. 8



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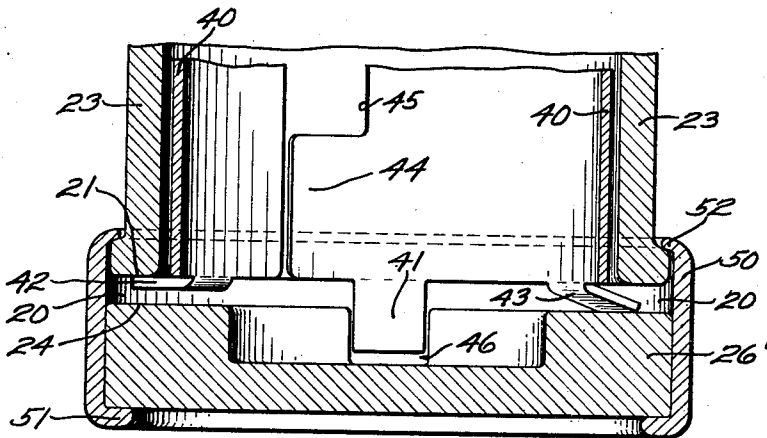
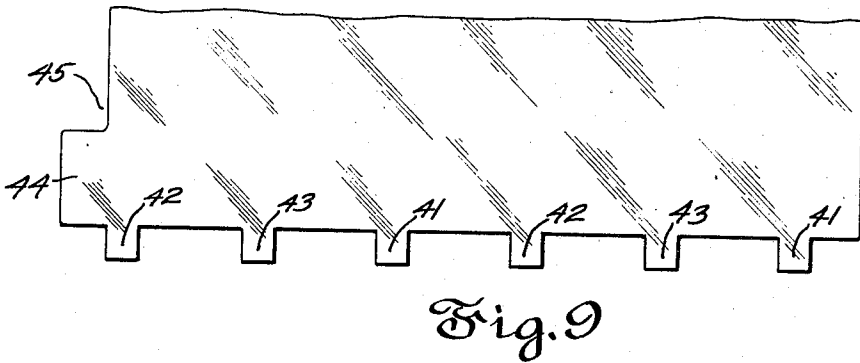
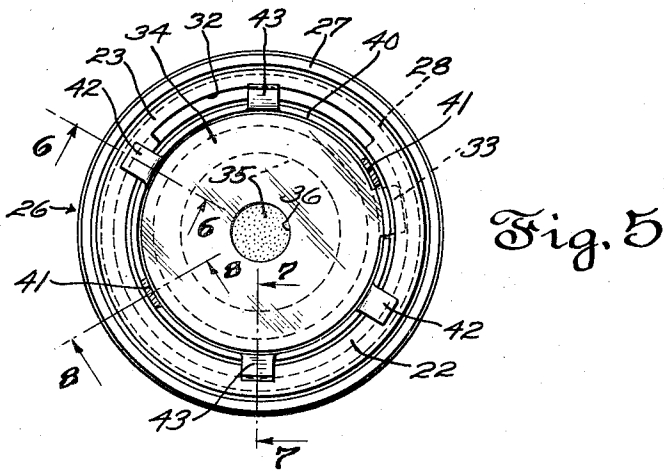


Fig. 10

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UNITED STATES PATENT OFFICE

2,442,109

LIPSTICK HOLDER WITH DIVERSE
EXPPELLANT PARTS

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Application January 2, 1945, Serial No. 571,044

10 Claims. (Cl. 206—56)

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This invention relates to expellant holders for sticks of expendable substance such as lipstick and other applicative cosmetics.

There are advantages in the use of all-plastic parts to compose an expellant lipstick holder but some of these are counteracted by the tendency of mold-produced thin-walled tubular plastic parts to shrink or warp during storage or use. The present improvements are a compromise between the use of all-plastic parts and the use of all metal parts aiming to combine with a relatively thick-walled outermost tubular plastic case and a relatively solid innermost plastic lipstick carrier an intermediate thin-walled sleeve or barrel for actuating the carrier to expel and retract the lipstick.

It is a further object to form such actuating barrel by rolling up to tubular shape an initially flat sheet of preferably resilient material which may be springy non-corrosive steel or hard brass.

In this combination it is desired to retain the advantages of a plastic outer case having thick enough walls to contain a helical groove that may serve as an expelling screw track and also the advantages of a plastic carrier in whose molded shape is incorporated a lateral lug adapted to track in such helical groove.

Other objects of this invention are to incorporate simplified means in the actuator barrel enabling the same to be rotated by finger manipulation of an outside ferrule and to be axially constrained and frictionally braked for remaining yieldably in various rotative positions to stay the lipstick at desired extents of protrusion from its case.

The foregoing and other objects are referred to at greater length in the following description of a preferred embodiment of the invention, in which description reference is made to the accompanying drawings wherein:

Fig. 1 is a view taken in central section lengthwise through a lipstick holder that incorporates the present improvements.

Fig. 2 is an exploded sectional perspective view of parts in the assembly shown in Fig. 1.

Fig. 3 is a fragmentary perspective view of the lipstick and its carrier with tracking lug.

Fig. 4 is a perspective view of my improved actuator sleeve detached showing its front wall partially broken away.

Fig. 5 is a cross sectional view looking upward from the plane 5—5 in Fig. 1 drawn on an enlarged scale.

Fig. 6 is a fragmentary sectional view taken

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on the plane 6—6 in Fig. 5 looking in the direction of the arrows.

Fig. 7 is a similar view taken in section on the plane 7—7 in Fig. 5.

Fig. 8 is a similar view taken on the plane 8—8 in Fig. 5.

Fig. 9 shows a development of the bottom end portion of the actuator tube of Fig. 4.

Fig. 10 shows on an enlarged scale a modified construction of the assembled bottom end portion of the lipstick holder making use of the actuator barrel shown in Fig. 4.

In the cosmetic applicator of my copending application Serial No. 535,779, filed May 16, 1944,

it is proposed to provide a tubular outer case that, for assembling and disassembling, springs into and out of axially interlocked free swiveling rotatably coupled relation to a cup-shaped ferrule whose rim girds the bottom end of the case.

Similar features of construction are employed herein but with modification which novelly includes the provision of an annular space 20 of axial extent between an annular thrust surface 21 presented downward by the flanged bottom end

22 of the outer tubular case 23 and a complementary annular thrust surface 24 presented upward by the marginal section 25 of ferrule 26. This space 20 separates and is bordered by thrust surfaces 21 and 24. From this marginal section of the ferrule there arises a thin springy rim wall 27

that is inwardly lipped at 28 to form an annular bead past which the flanged bottom end 22 of case 23 can be forced with a snap action in assembling and disassembling ferrule 26 relative to this case.

The relatively thick tubular wall of case 23 which may be molded from plastic material contains an internal helical groove or screw track 32 in which rides the follower lug 33 that forms part of the molded shape of the cup-like carrier 34 which also may be made of plastic material and in which is firmly lodged the lipstick 35. Groove 32 runs out or opens through the bottom end 22 of case 23 but at its opposite or top terminus is blind-ended at 31. Carrier 34 has the usual vent 36 in its floor wall to prevent air trap.

According to the present improvements an actuator barrel 40 having a relatively very thin wall is formed by rolling into cylindrical shape the major area of a springy blank sheet of material which may be of thin spring steel or resilient hard brass and whose developed form, as partially shown in Fig. 9, includes a series of circumferentially spaced tabs 41, 42 and 43 projecting from its bottom edge that is to extend circumferentially and

two larger axially spaced tabs 44 projecting from a lateral or axially directed edge. Barrel 40 is rotatably sleeved between the tubular wall of case 23 and the periphery of carrier 34. Tabs 44, when the blank is rolled up, meet the opposite lateral or axially directed edge of the blank and define the top and bottom limits of an elongated axially extending slot 45 through which in assembly the follower lug 33 of carrier 34 projects with a loose enough fit to slide freely up and down in such slot as rotary movement of actuator barrel 40 correspondingly impels the follower lug 33. In conventional manner this rotary movement of lug 33, while it remains guided in helical groove 32, produces axial screw-like movement of carrier 34 relative to the outer case 23.

Considering now the novel ears on tabs 41, 42 and 43, some of which serve to flange barrel 40 by being outward bent in Fig. 4, it will be seen that other diametrically opposite tabs 41 are left pointing straight downward without distortion other than slight curvature which may be imparted to them by flexing the flat sheet blank into cylindrical form. Tabs 41 thus afford driven shoulders or a driven lug for rotating barrel 40. Two other diametrically opposite tabs 42 are bent outward into right angle relationship to the longitudinal axis of barrel 40, while two more diametrically opposite resilient tabs 43 are outwardly inclined and remain in slanting relation to the barrel axis. Thus tabs 41 respectively enter and become interlocked with notches 46 forming rotary driving shoulders in the marginal section 25 of ferrule 26 in the assembled structure shown in Figs. 1, 2 and 8. Tabs 42 extend into and revolve about in the annular path or space 20 between thrust surfaces 21 and 24 at a level to sweep the thrust surface 21 and they extend radially outward beyond the full depth of the bottom open end of helical groove 32 as shown in Fig. 5. Tabs 43 press resiliently downward on thrust surface 24 of the ferrule and thereby urge the barrel 40 upward biasing the tabs 42 axially and yieldably against thrust surface 21 of case 23 to exert a friction drag which brakes relative movement between case 23 and ferrule 26. Each thrust affording tab or projection 43 thus is axially constrained by the relatively movable thrust surfaces 21 and 24. Ferrule 26 may be roughened at 29 to improve finger grasp.

When not in use the open top end of case 23 is covered by a slip cap most of whose inside diameter is oversize in relation to the outside diameter of case 23. Elongated internal pads 56 are incorporated in circumferentially spaced relation in the molded shape of the cap extending from the top closed end thereof to a point spaced from the bottom open end of the cap being thus considerably shorter than the whole length of the cap. These pads 56 provide a light squeeze fit of the cap against the outside of the case setting up a friction cling which prevents the cap from accidentally coming off. Because of their substantial breadth they are found to be more satisfactory and effective than much narrower ridges or fins formerly used for a similar purpose.

In operation when cap 55 is removed, the ferrule 26 is clutched against the base of the index finger with the second finger flexed about it to keep the ferrule from turning. The thumb and the tip of the index finger of the same hand are thereupon left free to swivel the casing shell 23 about its own axis relatively to the ferrule.

Thus the lipstick 35 is caused to move up and down between its retracted position shown in Figs. 1 and 2 and a projected position (not shown) in which latter position follower lug 33 is near the top ends of slot 45 and groove 32. When so projected the applicative tip of the lipstick 35 is outside of case 23 and ready for use. The lipstick is retained against endwise pressure inward of the case by the frictional resistance of tabs 42 against thrust surface 21 occasioned by the resilient axial thrust of tabs 43 against thrust surface 24. Also this resilient thrust of tabs 43 sets up light axial pressure between bead 28 and flange 22 resulting in frictional resistance at this point to the turning of case 23 relative to ferrule 26. While here shown as continuations of the major area of the blank sheet in Fig. 9, any or all of tabs 41, 42 and 43 may be separate resilient pieces or separate pieces resiliently mounted on the actuator barrel 40. The exact width, shape and spacing of these tabs is a matter of choice to suit the materials and degree of frictional resistance desired.

In Fig. 10 the disposition of the barrel tabs 41, 42 and 43 remains as in Figs. 1 to 7, inclusive, but there is substituted for the rim wall 27 of ferrule 26 a coupling shell 50 which may be formed of pliant metal or other suitable material, possibly a plastic, having an initially inturned flange 51 at its bottom rim against which is fixedly lodged the here abbreviated body shape of ferrule 26'. The top end of coupling shell 50 is initially straight and cylindrical and thus receptive to the bottom flanged end 22 of case 23. In assembling, the top of the rim of cylindrical wall of coupling shell 50 is turned inward to form an annular retaining lip 52 which engages and retains in spaced relation to ferrule body 26' the bottom end 22 of case 23. Thus shell 50 can be made of metal and snugly encompasses and armors the plastic ferrule body 26' and becomes, in its stead, the outside surface that is manipulated by the user's fingers.

There are possible departures from the exact constructions herein disclosed in which the invention may be embodied and the following claims are directed to and intended to cover all such departures as fairly come within their terms.

I claim:

1. In an expellant holder for sticks of expendable substance, the combination of, an outer tubular case presenting at one of its ends an annular thrust surface and having a screw track curving helically along its tubular wall, a stick carrier movable within said case in a manner to follow said screw track, a ferrule coupled rotatably to the said end of the case for swiveling movement relative thereto, said ferrule presenting a complementary thrust surface facing said annular thrust surface and axially separated therefrom by an annular space bordered by said surfaces, an actuating barrel rotatably sleeved between said case and said carrier impellingly related to the latter and impellably related to said ferrule, and at least one thrust projection on said barrel revolvable therewith in said space thereby to be axially constrained by said relatively rotatable thrust surfaces.

2. In an expellant holder for sticks of expendable substance, the combination of, an outer tubular case presenting at one of its ends an annular thrust surface and having a screw track curving helically along its tubular wall, a stick carrier movable within said case in a manner to

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follow said screw track, a ferrule coupled rotatably to the said end of the case for swiveling movement relative thereto, said ferrule presenting a complementary thrust surface spaced from and facing said annular thrust surface and axially separated therefrom by an annular space bordered by said surfaces, an actuating barrel rotatably sleeved between said case and said carrier impellingly related to the latter and impellably related to said ferrule, at least portions of one end of said barrel being flanged outward to revolve therewith in said space whereby said barrel is axially constrained by said relatively rotatable thrust surfaces.

3. In an expellant holder for sticks of expendable substance, the combination of, an outer tubular case presenting at one of its ends an annular thrust surface and having a screw track curving helically along its tubular wall, a stick carrier movable within said case in a manner to follow said screw track, a ferrule coupled rotatably to the said end of the case for swiveling movement relative thereto, said ferrule presenting a complementary thrust surface spaced from and facing said annular thrust surface, an actuating barrel rotatably sleeved between said case and said carrier impellingly related to the latter and impellably related to said ferrule, and at least one thrust projection revoluble in a path between said thrust surfaces resiliently mounted on the said barrel in a manner to wipe frictionally against one of said thrust surfaces thereby to brake the rotary movement of said ferrule relative to said case.

4. In an expellant holder for sticks of expendable substance, the combination of, an outer tubular case presenting at one of its ends an annular thrust surface and having a screw track curving helically along its tubular wall, a stick carrier movable within said case in a manner to follow said screw track, a ferrule coupled rotatably to the said end of the case for swiveling movement relative thereto, said ferrule presenting a complementary thrust surface spaced from and facing said annular thrust surface, an actuating barrel rotatably sleeved between said case and said carrier impellingly related to the latter and impellably related to said ferrule, and a resilient ear projecting laterally from the said barrel and revoluble in a path between said thrust surfaces, said ear being formed to wipe frictionally against the said annular thrust surface in a manner to brake the rotary movement of the said ferrule relative to said case.

5. In an expellant holder for sticks of expendable substance, the combination defined in claim 3, in which the said barrel comprises a sheet of resilient material having the major portion of its area rolled to tubular shape and a minor portion of its area bent to form the said thrust projection.

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6. In an expellant holder for sticks of expendable substance, the combination defined in claim 1, together with drive shoulders on said barrel and on said ferrule interengaged for imparting rotary drive from said ferrule to said barrel.

7. In an expellant holder for sticks of expendable substance the combination defined in claim 1, in which the said barrel comprises a sheet of metal having its major portion rolled to tubular shape and a minor portion projecting from said tubular shape to form a driven lug, and the said ferrule contains a recess occupied by said lug for impelling said barrel.

8. In an expellant holder for sticks of expendable substance the combination defined in claim 1, together with at least one additional thrust projection on said barrel extending into rotatively interlocked relation to the said ferrule.

9. In an expellant holder for sticks of expendable substance, the combination defined in claim 1, together with at least one additional thrust projection on said actuator barrel constructed and arranged to press resiliently against one of the said thrust surfaces in a manner to bias said barrel axially in a direction to cause the said constrained thrust projection to wipe frictionally against the other of said thrust surfaces, the said ferrule having rotary interlocked driving engagement with said actuating barrel.

10. An actuator barrel for expellant lipstick holders comprising a sheet of thin material rolled to cylindrical form having a series of circumferentially spaced tabs projecting from one edge thereof and having an elongated notch in an axially directed edge thereof adjacent an axially meeting edge thereof at least one of said tabs being directed more axially than radially with respect to said cylindrical form and at least one other of said tabs being directed more radially than axially with respect to said cylindrical form.

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