Oct. 9, 1945. H. L. APFELBAUM 2,386,417

LIPSTICK HOLDER

Filed May 21, 1943

Fig. 1

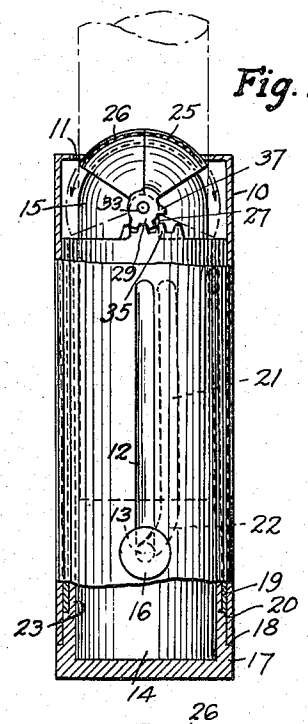


Fig. 2

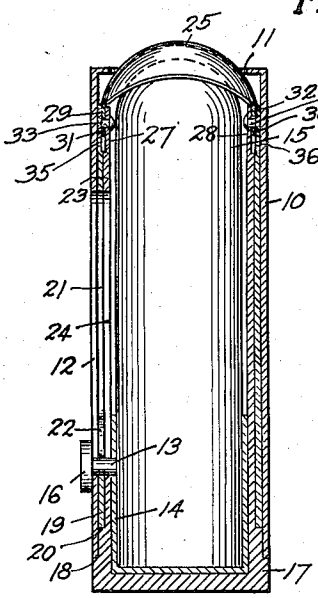


Fig. 3

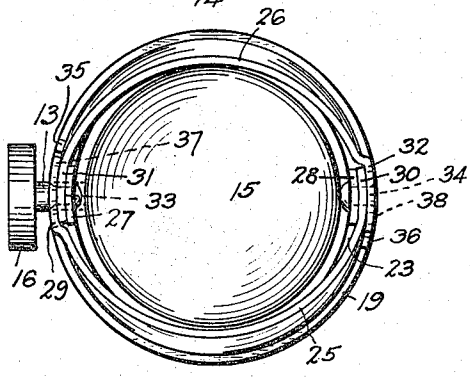


Fig. 4

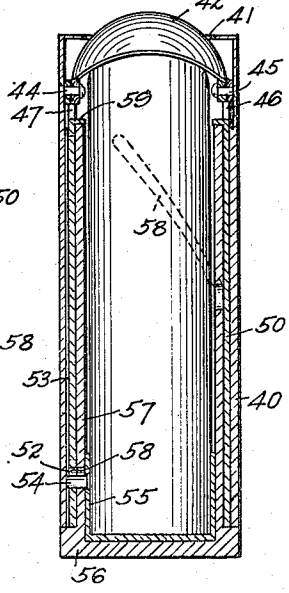


Fig. 5

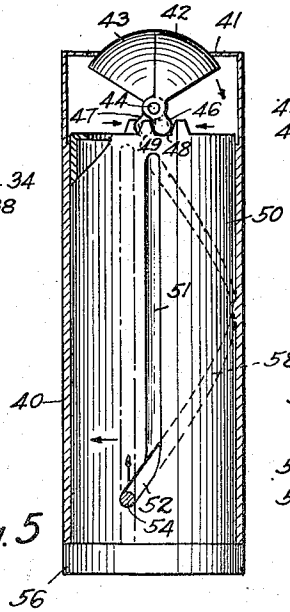
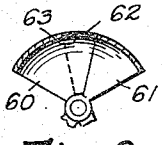


Fig. 6



INVENTOR.
Huna L. Apfelbaum
BY Harry Jacobson
ATTORNEY

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2,386,417

LIPSTICK HOLDER

Huna L. Apfelbaum, Brooklyn, N. Y., assignor to Victor Metal Products Corporation, Brooklyn, N. Y., a corporation of New York

Application May 21, 1943, Serial No. 487,866

3 Claims. (Cl. 206—56)

This invention relates to lipstick holders and particularly to the type adapted simultaneously to open a cover and to project the lipstick, the cover being automatically closed when the lipstick is retracted.

The invention contemplates the provision of a simple lipstick holder designed to be molded of plastic material or made of metal and provided with a simple gear mechanism for operating the cover members simultaneously with the projection or retraction of the lipstick from and into the holder.

The various objects of the invention will be clear from the description which follows and from the drawing, in which,

Fig. 1 is a front elevation, partly in section, showing a new preferred form of the holder in the retracted position of the lipstick, the extended position of the lipstick and the open position of the cover members being shown in dash dot lines.

Fig. 2 is a combined side elevation and vertical section of the same.

Fig. 3 is a top plan view of the same on an enlarged scale with the outer shell removed and the cover members in their open position.

Fig. 4 is a side elevation and vertical section combined of a modified form of the holder wherein the rotation of a base projects the lipstick and opens the cover members.

Fig. 5 is a front elevation of the same partly in section.

Figure 6 is a section of a modified form of the cover members.

In the practical embodiment of the invention shown by way of example, and referring particularly to Figs. 1 to 3, the outer shell 10 is provided with an opening 11 at its upper end for the passage of the lipstick and is provided with an axial or longitudinal slot or groove 12 therethrough. Passing through said slot is the operating pin 13 secured to the lipstick carrier 14 into which the lipstick 15 is inserted. Said pin terminates in an enlarged head 16, whereby the pin may be operated to move vertically in the slot 12 and thereby to project and retract the lipstick. The outermost shell 10 rests on the shoulder 18 of the base 17 and fits frictionally over a projection on the base to be rotated in fixed relation thereto.

Arranged concentrically with the shell 10 is the intermediate shell 19 resting on the shoulder 20 of the base 17 and rotatable relatively thereto. Said intermediate shell is provided with a groove or slot having the upright portion 21 and terminating at its lower end in the substantially helical portion 22, the pin 13 passing through said slot and when constrained to move vertically causes a partial rotation of the intermediate shell for the purpose to be later described. The innermost shell 23 is preferably molded integrally with the base 17 and serves the double function of a guide for the lipstick carrier 14 and as a standard to which the cover members 25, 26 are pivoted. Said innermost shell is provided with a longitudinal groove 24 registering with the groove 12 of the outermost shell and receiving the pin 13. At its uppermost end the innermost shell 23 is provided with the upstanding projections 27, 28 arranged diametrically opposite each other and preferably of somewhat reduced thickness and also serving as the support for the cover members.

Each of the cover members is preferably in the form of a spherical segment and is preferably quite thin and light, each being provided with a pair of oppositely disposed bearing members or extensions as 29, 30 for the member 25 and 31, 32 for the member 26. The bearing portions 29 and 31 are mounted on the pivot pin 33 secured to the projection 27, while the bearing members 30 and 32 are similarly mounted for rotary movement on the pivot pin 34 secured to the projection 28 of the innermost shell. To provide an operative connection between the carrier 14 and the cover members, a pair of diametrically opposed gear racks 35, 36 are provided on the intermediate shell 19. The rack 35 meshes with the pinion teeth 37 on the bearing part 29 of the cover member 25, while the rack 36 meshes with the similar pinion teeth 38 on the bearing portion 32 of the cover member 26. It will therefore be seen that on rotation of the intermediate shell, the cover members 25 and 26 rotate in opposite directions, that is, they either move toward each other or away from each other.

It will now be seen that to open the cover members and to project the lipstick from the positions of the parts shown in Figs. 1 and 2, the pin 13 is manipulated by moving it upwardly through the medium of the accessible head 16 thereon. Such upward movement of the pin causes corresponding movement of the carrier 14 and the lipstick 15. During the initial part of the movement of the pin in the grooves 12 and 24, the pin moves in the helical part 22 of the intermediate shell thereby rotating said shell to the left, as viewed in Fig. 1, until the pin 13 reaches the upright portion 21 of the groove in said intermediate shell. Such rotation causes the racks 35 and 36 to move in opposite directions relatively to the pivots 33, 34 (clockwise as viewed in Fig. 1), thereby to ro-

tate the pinions 37, 38 in opposite directions, that is, in the directions of the arrows of Fig. 1 to open the cover members at the same time that the lipstick moves upwardly through the passage or opening thus provided between the adjacent meeting edges of the cover members. It will be understood that the upper end of the lipstick is arranged sufficiently below said cover members when in its fully retracted position to permit the cover members to open fully before the lipstick reaches the cover members during the upward movement of the lipstick. Similarly, when the lipstick is retracted, the cover members remain open until the pin 13 reaches the helical portion 22 of the groove in the intermediate shell, whereafter the cover members are automatically closed during the final downward movement of the pin in the respective grooves of the shells.

In that form of the invention shown in Figs. 4 and 5, the movement of the covers is accomplished in the same way with the upward movement of the lipstick carrier, but with rotary movement of the base. As shown, the outermost shell 40 is provided with the upper opening 41 through which the cover members 42, 43 project slightly to substantially close said opening when the cover members are in contact. However, said cover members are pivotally secured to the outer shell as by means of the pivot pins 44, 45. For the pinions 37, 38 are substituted the rounded teeth 46, 47 operating in diametrically opposed gear grooves 48, 49 respectively at the upper edge of the intermediate shell 50. Said intermediate shell is provided with a groove having an upright portion 51 and a lowermost helical portion 52 similar to the grooves 21, 22. The outermost shell 40, however, is provided with an upright groove 53 preferably of less depth than the thickness of said outermost shell and receiving the end portion of the pin 54 projecting from the carrier 55. The groove 53 prevents the pin 54 and the lipstick carrier 55 from rotating around the axis of the holder when the base 56 and its integral innermost shell 57 are rotated, whereby the carrier is constrained to move vertically only.

Said innermost shell 57 is provided with the helical groove 58, the lower part of which registers with the groove portion 52, the pin 54 passing through the grooves 58, 51, 52, and into the groove 53. If desired, an annular flange or inward extension 59 may be provided at the upper portion of the intermediate shell to engage the top edge of the innermost shell, thereby to prevent possible shifting of the parts during operation.

To operate this form of the invention, the base 56 is rotated in a clockwise direction, as viewed in Figs. 4 and 5, thereby to rotate the innermost shell 57 and also to rotate the intermediate shell 50 until the pin reaches the upright portion 51 of the groove in the intermediate shell. Such rotation of the carrier rotations the intermediate shell 50 in the direction of the arrows of Fig. 5 and the innermost shell 57 first as a unit to raise the carrier 55 and simultaneously to open the cover members 42, 43. After the pin, however, has passed the groove portion 52 and reaches the groove portion 51, the intermediate shell no longer rotates, but the innermost shell only rotates. Any rotation of said shell 57 causes only vertical movement of the pin 54 which is constrained to such vertical movement by the groove 53. Similarly, rotation of the base 56 in a counter-clockwise direction after the cover members have been opened to retract the lipstick causes first downward movement of the lipstick and at the final part of the movement of the pin causes sufficient rotation of the intermediate shell to close the cover members.

It will be understood that various modifications of the gearing connections between the cover members and the shell may be made without departing from the primary function of my invention consisting of simultaneously operating the cover members and the lipstick carrier. In Fig. 6 showing a modified form of the cover members 60 and 61, said members are made with parts 62 and 63 reduced in thickness and overlapping in their closed positions. The inner edge part 62 fits into a corresponding recess in the upper surface of the member 60, and the part 63 fits into a similar recess in the lower surface of the member 61. The gearing connections between the cover members and the carrier in the various modifications are intended to be interchangeable, so that the connection 46—48 of Figs. 4 and 5 may be substituted for that shown in Figs. 1 and 2 and vice versa.

It will be seen that I have provided a comparatively simple and inexpensive device adapted to be molded of plastic if desired and easily assembled and obviating the necessity of removing a separate cap before the lipstick can be projected and thereby having no separate parts likely to be lost or misplaced, and that I have provided an efficient cover operating mechanism for automatically opening and closing the cover.

Various modifications of the invention have been above indicated and others may be made without departing from the spirit of the invention as defined in the appended claims.

I claim:

1. In a lipstick holder, three grooved concentric shells having a common axis, a lipstick carrier slidable longitudinally within the innermost of the shells, a single operating pin projecting radially from the carrier and passing through the grooves of the two inner shells and having an outer end portion thereof slidable in the groove of the outermost of the shells, the inner end portion of the pin being fixed to the carrier whereby the pin and carrier are movable vertically as a unit, the groove in the intermediate shell being straight and parallel to said axis from the top of the groove to a point in spaced relation to the bottom thereof, the bottom portion of said last-mentioned groove being substantially helical to impart a limited predetermined amount of rotary movement to said intermediate shell during the initial portion of the upward movement of the carrier and during the final portion of the downward movement of the carrier, the groove in the innermost shell being helical, and the groove in the outermost shell being in the inner wall of said shell and part way through the thickness thereof to provide an imperforate outer surface on the outermost shell, said last mentioned groove being straight and parallel the axis of the shells, the outermost shell having an opening in its top, a pair of covers each in the form of a spherical segment pivoted together and pivotally mounted on the outermost shell and arranged adjacent the opening to close the opening in the uppermost position of said shells and to expose the opening in the lowermost position of said shells, and means for moving the segments from said uppermost to said lowermost position on the initial part of the upward movement of the carrier and on the final part of the downward movement of

the carrier respectively, said means comprising cooperating gear members on the segments and on said intermediate shell respectively.

2. In a lipstick holder, a pair of cover segments pivoted together for movement to and from each other into a closed and into an open position thereof, a first shell provided with a pair of diametrically opposite gear members at its uppermost edge, a gear member on one of the segments engaging one of the gear members of the shell, a gear member on the other segment engaging the other gear member of the shell, means for pivotally supporting the segments, a slidable lipstick carrier, a single operating pin fixed to and projecting radially from the carrier, a cam groove in the shell engaging the pin and having a portion thereof shaped to rotate the shell through a predetermined angle to open and close the segments on predetermined movement of the pin, the remaining portion of the groove being longitudinal and means constraining both ends of the pin to move longitudinally of the shell, comprising an inner shell inside of the first shell and having a helical groove therein, the end part of which groove normally registers with the end part of the groove in said first shell when the carrier is completely retracted within the inner shell, and an outer shell outside of the first shell and having a straight longitudinal groove in the inner surface thereof and part way through the thickness of said outer shell.

3. In a lipstick holder, an outermost shell having a top opening and having a longitudinal groove in the inner surface thereof extending part way through the thickness of the shell whereby the outer surface of the shell remains imperforate, an intermediate shell provided with a pair of diametrically opposed gear members and having a groove therein in part longitudinal and in part helical, an innermost shell having a helical groove therein and provided with a rotatable base mounting the outer shell and the intermediate shell thereon, a lipstick carrier within the innermost shell, a single concealed operating pin fixed to the carrier and projecting through the grooves of the innermost and intermediate shells and into the groove of the outermost shell, a flange at the upper end part of the intermediate shell inwardly overhanging the innermost shell and preventing upward movement of the innermost shell, a pair of segmental cover members adjacent the opening, a pair of diametrically opposed pivots pivotally securing the members to the outermost shell, and a gear member on each of the cover members engaging one of the gear members of the intermediate shell.

HUNA L. APFELBAUM.