

April 28, 1953

R. B. HOPGOOD
COSMETIC CONTAINER

2,636,598

Filed March 2, 1950

3 Sheets-Sheet 1

FIG. 1.

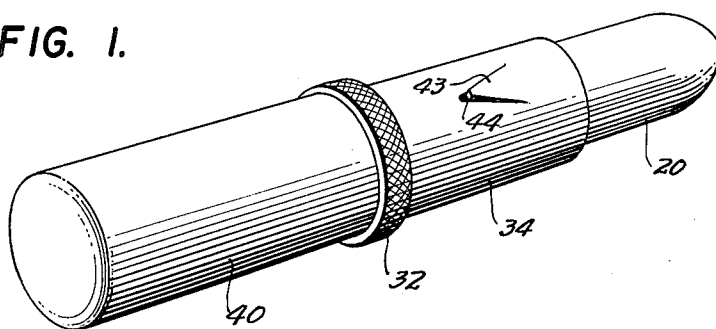


FIG. 3.

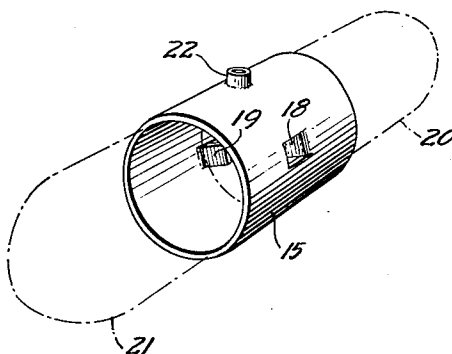


FIG. 2.

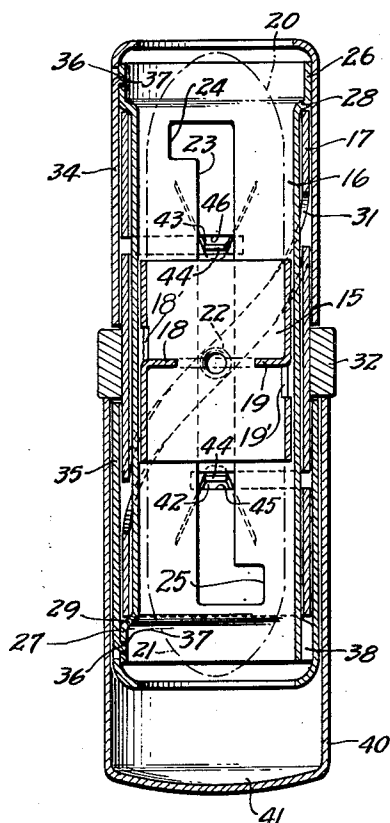
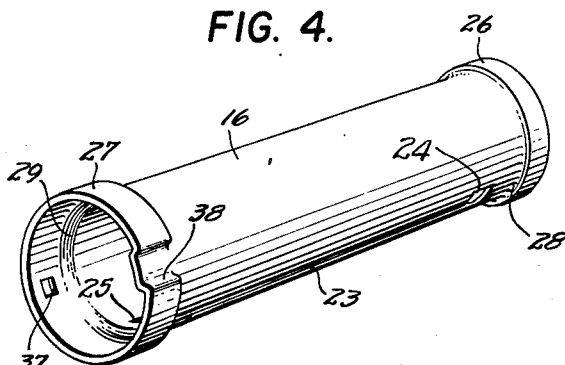


FIG. 4.



INVENTOR
ROBERT B. HOPGOOD
BY
Mitchell K. Robert
ATTORNEYS

April 28, 1953

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FIG. 5.

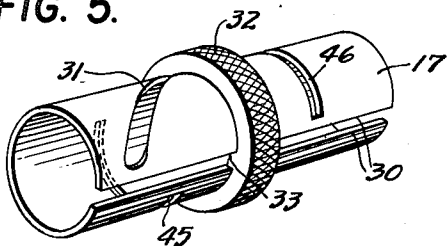


FIG. 6.

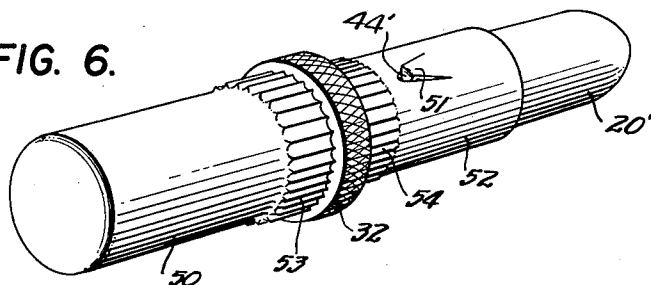


FIG. 7.

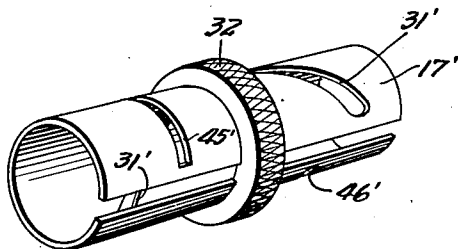


FIG. 8.

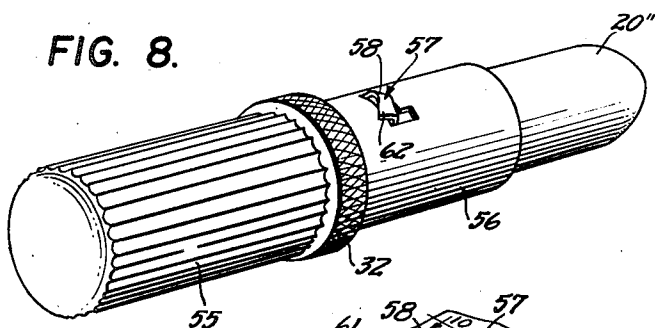


FIG. 9.

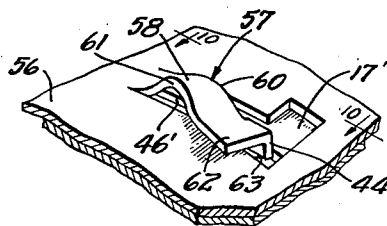
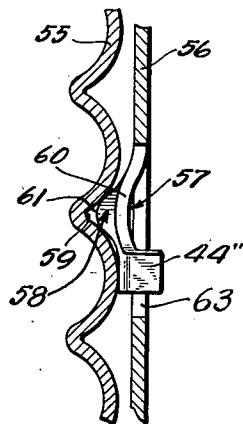


FIG. 10.



INVENTOR
ROBERT B. HOPGOOD
BY
MILNER B. BENT
ATTORNEYS

April 28, 1953

R. B. HOPGOOD
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FIG. II.

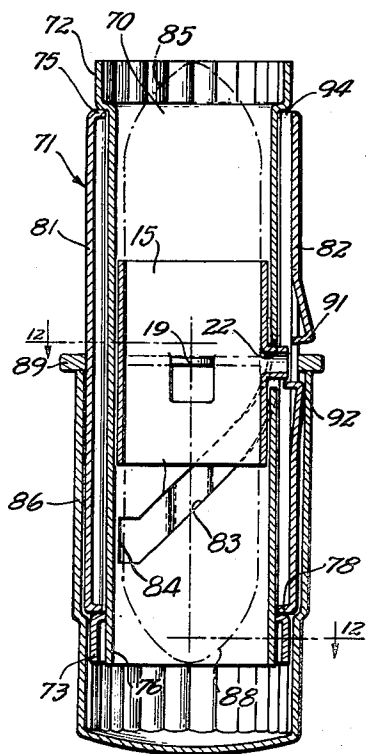


FIG. 12.

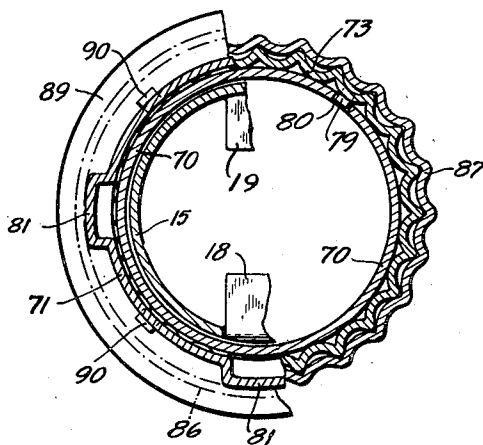


FIG. 13.

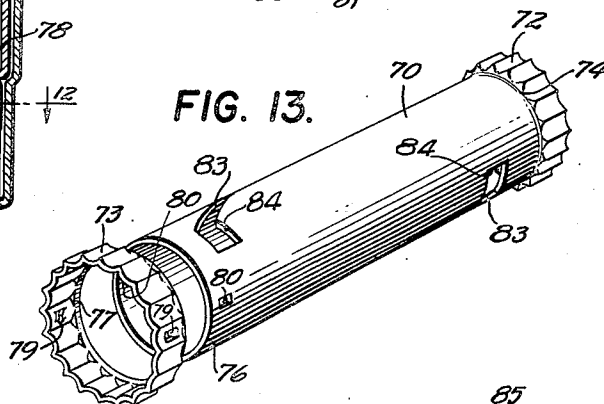
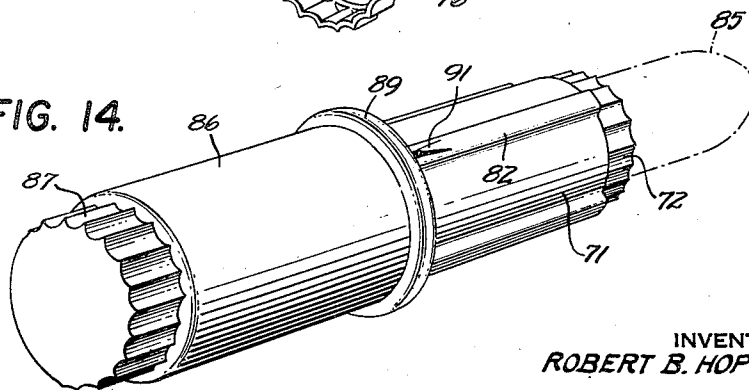


FIG. 14.



INVENTOR
ROBERT B. HOPGOOD

BY
Winters & Bunker
ATTORNEYS

UNITED STATES PATENT OFFICE

2,636,598

COSMETIC CONTAINER

Robert B. Hopgood, Cheshire, Conn., assignor to
The Eyelet Specialty Company, Waterbury,
Conn., a corporation of Connecticut

Application March 2, 1950, Serial No. 147,294

21 Claims. (Cl. 206—56)

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My invention relates to constructions for double-ended cosmetic or the like containers.

It is an object of the invention to provide improved constructions of the character indicated.

It is another object to provide an improved double-ended cosmetic container with a common carrier and with common propulsion means for the carrier so that the same propulsion means may serve whichever end of the container is to be utilized.

It is also an object to provide a double-ended cosmetic container with means to prevent lipstick propulsion against a closed end of the container and to permit lipstick propulsion only out of an open end of the container.

It is a further object to provide an open-ended cosmetic container with a common carrier for two oppositely facing lipsticks or the like and with means whereby the parts to be grasped for propulsion of one lipstick out of one end are manually actuated for propulsion and retraction of said one lipstick in the same respective relative directions as are the exposed manually actuable parts to be grasped and actuated for propulsion of the other lipstick out the other end of said container.

It is a specific object of the invention to provide a double-ended lipstick construction analogous to the conventional single-ended arrangement that is widely known as the four-piece container construction.

It is another specific object of the invention to provide a double-ended lipstick construction analogous to the conventional single-ended arrangement that is widely known as the three-piece container construction.

It is a general object to meet the above objects with a construction that is simple to make and to use and which involves a minimum of additional parts over conventional single-ended lipstick constructions.

Other objects and various further features of novelty and invention will be pointed out or will occur to those skilled in the art from a reading of the following specification in conjunction with the accompanying drawings. In said drawings, which show, for illustrative purposes only, preferred forms of the invention:

Fig. 1 is a perspective view of a double-ended lipstick container according to the invention, 50

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shown with one of two closure caps removed and with a lipstick or the like in a propelled position, projecting out the open end of the container;

Fig. 2 is a longitudinal sectional view of the assembly shown in Fig. 1;

Fig. 3 is a perspective view of the carrier in the construction of Figs. 1 and 2;

Fig. 4 is a perspective view of the inner tubular member of the construction of Figs. 1 and 2;

Fig. 5 is a perspective view of two further parts of the construction of Figs. 1 and 2, showing their relation to each other when assembled;

Fig. 6 is a perspective view similar to Fig. 1 but illustrating a modified arrangement of Figs. 1 and 2;

Fig. 7 is a perspective view of the same parts as are shown in Fig. 5 but for utilization in the modification of Fig. 6;

Fig. 8 is a perspective view similar to Fig. 1 but showing a further modification;

Fig. 9 is an enlarged fragmentary perspective detail of a part of the modification of Fig. 8;

Fig. 10 is a very much enlarged sectional view more or less in the plane 10—10 of Fig. 9, certain arcuate parts being shown flat for purposes of simplification;

Fig. 11 is a longitudinal sectional view of a construction representing an alternative of the construction of Fig. 1;

Fig. 12 is an enlarged double-sectional view of the alternative construction of Fig. 11, the section being taken substantially in the planes represented by the line 12—12 of Fig. 11;

Fig. 13 is a perspective view of parts which may be utilized in the construction of Fig. 11; and

Fig. 14 is a perspective view of the alternative construction of Fig. 11, with one closure cap removed as in Fig. 1.

Briefly stated, my invention contemplates an open-ended lipstick or the like container construction in which a single propelling mechanism may selectively propel one lipstick out one end of the container and another lipstick out the other end of the container; by open-ended, I mean a generally-tubular construction open or openable at both ends thereof. Closure means may be provided for selectively closing the open ends of the container. Various means may cooperate with the closure means so as to assure that the lipstick which may be projected out the

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closed end will not be driven against the closure means of the closed end, and to assure that lipstick propulsion will be possible only out of an open end of the container. Such means may be arranged to assure that when both ends of the container are closed the propulsive mechanism will be ineffective, or, stated in other words, no externally accessible parts may be effective to propel either lipstick when both ends of the container are closed.

My constructions may utilize a single propulsive mechanism employing but two relatively diverging cam means, each continuously formed with a single direction or slope. Thus, for one true relative rotation of the members supporting the cam means, there will be only one true axial direction of resulting carrier propulsion; similarly, for any true relative rotation in the opposite direction, there will be only one true direction of resulting carrier propulsion, and, of course, the latter propulsion will be in the direction opposite to the former. In spite of this characteristic of the propulsive mechanism, I have arranged the container elements in such a way that, regardless of the container end from which the closure means is removed, propulsion and retraction of a lipstick or the like out the then-open end may be achieved with consistent natural relative twists of the hands.

Two alternative general forms of the invention are shown and specifically described. One of these constructions may be viewed as an analogy of the conventional so-called "four-piece" container construction for single lipsticks or single-ended containers; the other form may be viewed as an analogy of the so-called "three-piece" construction for such containers. In the first form of the "four-piece" construction to be described, the closure means for the respective ends of the container are free-swiveling, and lipstick propulsion is only possible after removal of the closure means for one end, to expose the manually actuated propulsion means. In the other "four-piece" constructions the closure caps are both utilized as manually accessible driving elements for the propulsion mechanism, and dogging means actuated by placement of the respective closure caps serves to prevent driving a lipstick against a closed end of the container while permitting propulsion out an open end. In the "three-piece" construction shown, a closure cap is also utilized as a manually operated means for propelling a lipstick out an open end.

Referring to Figs. 1 to 5 of the drawings, my invention is shown in application to a double-ended lipstick or the like container which may be said to be analogous to a conventional so-called "four-piece" construction for single-ended lipsticks. As such, the container may include a carrier 15 longitudinally slidable within an inner tubular member 16, and the inner tubular member 16 may be rotatable within and relatively to a sleeve member 17. The carrier 15 may be open at both ends and pierced axially centrally, preferably from opposite sides, so that two radially inwardly facing lugs 18—19 may be formed to determine bottom-limiting positions for two separate inserted lipsticks 20—21; for conservation of axial space the lugs 18—19 may be formed in the same radial plane. The piercings for lugs 18—19 are preferably made from opposite axial directions so that, no matter which end of the carrier 15 first receives one of the lipsticks 20—21, there may be an air vent (via one of the piercing openings 18'—19') to permit ready insertion of

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the other of lipsticks 20—21, thus completing the lipstick-inserted carrier assembly. As is conventional, cam-follower means in the form of an eyelet 22 may be drifted out of an axially central part of the main tube of carrier 15; but for a purpose which will later be clear, I prefer that the eyelet 22 shall be formed after partial assembly, as, for example, after the carrier 15 has been inserted into the inner tubular member 16.

As is conventional, the eyelet or cam-follower means 22 may project sufficiently radially for cooperating engagement with relatively diverging, relatively longitudinally extending cam means in each of the tubular members 16—17 so that, upon relative rotation of the tubular members 16—17, the carrier 15 will be longitudinally propelled. In the form shown, the inner tubular member 16 is formed with a straight cam slot 23 to receive the eyelet 22, and the slot 23 may extend substantially the length of the container. In order to prevent inadvertent retraction of a projected lipstick during application to the lips, each end of the straight slot 23 may be formed with an angular offset or extension, as at 24 for retention of the upper lipstick 20, and as at 25 for retention of the lower lipstick 21; it will be noted that the angular offsets 24—25 extend in opposite directions, at opposite ends of the carrier-propulsion course.

The longitudinal ends of the inner tubular member may be formed to cooperate with the longitudinal ends of the sleeve member 17 so as to provide axial retention of these two parts, and in the form shown the longitudinal ends of the inner tubular member 16 each include enlarged rims or bases 26—27 defining radial ledges 28—29 in radial overlapping relation with the ends of the sleeve 17. For a purpose which will later be clear, I prefer that both ends 26—27 of the inner tubular member 16 shall be circumferentially continuously formed so that these ends may not be radially deformed and so that close radial tolerances may be maintained for relatively rotating parts. It is for this reason that I prefer that the carrier 15 be first inserted into the inner tubular member 16 and that, after such insertion, the eyelet 22 be drifted out of the carrier 15 and through the straight slot 23.

The sleeve 17 may be of more or less conventional configuration and may be formed from flat sheet material rolled up to an extent that the end edges 30 (Fig. 5) may define opposite sides of a generally longitudinally extending slot. If these end edges 30 were cut parallel and on a bias, then they might serve as opposite walls of a spiral cam slot to cooperate with the cam-follower eyelet 22 for propulsion purposes; however, in the form shown, I have separately pierced the material of sleeve 17 with a diagonal slot which when rolled up provides the desired spiral cam slot 31.

For actuating purposes, a member may be struck from and bent out of the sleeve 17 to project radially externally of the main body of the container assembly, but, I have shown a separate piece in the form of a ring member 32 for this purpose. The ring 32 may be formed of sheet material as are the other parts, but I prefer to employ a solid construction for the ring 32 so that the ring 32 may be of molded plastic or a screw-machine metal part. To establish an angularly locked relation with the main body of sleeve 17, the ring 32 may include an inwardly facing key or lug 33 to slide between the opposed

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rolled-up edges 30 of the sleeve 17. If desired, the outer surface of the actuating ring 32 may be knurled or otherwise roughened, as shown, for improved finger grip.

To complete the container assembly, I provide externally accessible means for covering the exposed parts of the sleeve 17 and for establishing a driving relation with the inner tubular member 16. Such external means may involve an outer tubular casing 34 for one end of the container and an outer tubular casing 35 for the other end of the container. When assembled to the container, the casings 34—35 preferably closely fit the enlarged ends 26—27 of the inner tubular member 16 for primary support thereon, and to assure the desired driving engagement with the inner tubular member 16, spring nibs 36 may be punched out of the casing members 34—35 for a snap-lock engagement with suitable slots 37 punched in the enlarged ends 26—27 of the inner tubular member.

The construction thus far described may be assembled in the following order. First, a straight tubular carrier piece 15 (i. e. without eyelet 22) is inserted in the inner tubular member 16. Second, the eyelet 22 is drifted out of the carrier 15 and through the straight slot 23. Third, the rolled-up sleeve 17 is sprung open and slipped over one of the enlarged ends 26—27 of the inner tubular member 16, care being taken that the eyelet 22 is passed into the spiral slot 31 before the sleeve becomes retained against both ledges 28—29 of the inner tubular member 16. Fourth, the sleeve 17 is rotated on the inner tubular member 16 for alignment of the straight slot between walls 30 with an inwardly depressed entrance groove 38 formed in a part of the periphery of one (27) of the enlarged ends 26—27 of the inner tubular member. Fifth, the actuating ring 32 is slipped over the enlarged end 27, the key 33 passing through the entrance groove 38 and into the straight slot between walls 30. Sixth, the outer tubular casing members 34—35 are slipped over opposite ends of the inner tubular members 16 and locked thereto, at 36—37. It will be appreciated that when the outer tubular casing members 34—35 have been inserted and locked in the described manner, the actuating ring 32 may be sufficiently retained axially.

As indicated generally above, I provide closure means for selectively closing the two ends of the container. In the form shown, two tubular closure members or caps may perform this function, and I have shown one of these caps 40 over the end of the container through which the lipstick 21 is to be projectable. I desire, however, that means shall be provided whereby the lipstick 21 shall not be inadvertently driven against the inside or end 41 of the closure cap 40, and at the same time, of course, such means cannot interfere with desired propulsion of the lipstick 20 out the open end of the container. For the case shown, the closure cap 40 is free-swiveling as far as any engagement with other parts of the described mechanism may be concerned, and propulsion of lipstick 20 may be accomplished upon grasping the actuating ring 32, say, with the right hand, and upon grasping the outer tubular casing member 34, say, with the left hand, propulsion of the open end of the container being effected upon a "right-handed" twist of the hands, and retraction being effected upon a "left-handed" twist of the hands.

In accordance with a feature of the invention, means may be provided in cooperation with a

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placed closure cap 40 for not only assuring against downward propulsion of the lipstick 21 against the end 41 of the closure cap, but for also lightly frictionally holding the closure cap in place. Such means may be provided in duplicate at the respective ends of the container so that duplicate parts may be employed and so that the same safety action may be available when another closure cap (not shown) is applied over the open end of the container. In the form shown, the means for preventing downward displacement of the carrier limits carrier movement essentially only to that half of the propulsive stroke which faces the open end of the container. Such means may include a deformable member carried by each outer tubular casing member; in the form shown, a deformable member 42 is struck out of the body of the outer casing member 35, and a deformable member 43 is struck out of the outer casing member 34. Each such deformable member 42—43 may be normally outwardly bent for a gentle, yet firm, resilient, holding engagement with a closure cap 40, upon capping an open end of the container. In the arrangement shown in Fig. 2, the deformable member 42 is thus engaged and therefore inwardly displaced, while sufficiently firmly holding the closure cap 40 in place; also, it will be noted that the deformable member 43 is not thus engaged in Fig. 2 and that it is, therefore, in what may be termed a normal radially outwardly displaced position.

Each of the deformable members 42—43 may be formed with means to be used in the selective control of the propulsion mechanism, so as to assure propulsion only through the open end of the container and so as to prevent inadvertent ramming of a lipstick 21 against a closed end 41. Such means may include a radially inwardly bent dog or lug 44 at the tip or movable end of each of the deformable members 42—43; the radial extent of the dogs 44 is preferably such that in the normally-out position (as in the case of the deformable member 43) the lug 44 clears the outside dimension of the sleeve member 17, and such that for the inwardly depressed position (as in the case of the deformable member 42) the dog lug 44 extends within the maximum outside dimension of the sleeve member 17.

To cooperate with the dog members 44, arcuate slots 45—46 may be punched out of the sleeve member 19. In the case of the lug 44 for deformable member 42, the slot 45 extends preferably for an amount sufficient to permit free propulsion of the carrier 15 from a central position, as shown, to a position representing full projection of the upper lipstick 20. In retracting lipstick 20 from the projected position, the lug 44 on the deformable member 42 will at all times ride freely in the sleeve slot 45, until, at the central or retracted carrier position, the end of slot 45 will intercept the lug 44 of member 42 to prevent further retraction (i. e. propulsion toward the closed end 41). Similarly, in the case of the other slot 46, for the lug 44 of deformable member 43, the angular extent is preferably such as to permit limited free propulsion of the carrier 15, as from the central position shown in Fig. 2 to a position representing full projection of the lower lipstick 21 out the lower end of the container (when the cap 40 is removed from said lower end).

It will thus be appreciated that the slots 45—46 effectively overlap substantially only for that relative angular position of the relatively rotatable

tubular members 16—17 which determines the central or retracted carrier position, that is, the position in which the carrier is retracted from both ends of the container. Removal of a closure cap from one end while leaving a closure cap on the other end only permits enough relative rotation to propel a lipstick out the open end of the container; whereas, removal of the closure cap from the other end while the one end is closed permits propulsion only out the then-open other end of the container.

It will be noted that unless the carrier has been centrally placed, as determined by retracting propulsion of the carrier until one of the lugs 44 strikes an end of one of the dog slots 45—46, closure-cap placement will not be possible over the open end of the container; the cap will attempt to drive the exposed deformable member 43 radially inwardly, but the lug 44 thereof will not then overstand one of the slots 46 and the external surface of sleeve 17 will limit inward deformation and thus bar placement of the closure cap. Thus, it will not be possible inadvertently to ram a projecting lipstick on the inside end of the closure cap upon a placement of the cap. It will further be noted that, when closure caps have been placed over both ends of the container, the parts which are exposed are not such as to permit any driving propulsion of the carrier away from its central position. Both closure caps are free-swiveling, and any relative rotation thereof or any relative rotation of a cap with respect to the actuator ring 32 will result in no driving thrusts on the propulsion mechanism. The dogging means 44 may further assure against inadvertent propulsion of a lipstick within a fully closed container, as will be understood.

In Figs. 6 and 7, I show a modified arrangement of the "four-piece" construction which has thus far been described. It will be recalled that, in the arrangements of Figs. 1 and 2, propulsion of a lipstick through an open end of the container was possible only by grasping the actuating knob or ring 32 by the fingers of one hand (e. g. the right hand), by grasping the exposed outer tubular casing 34 with the fingers of the other hand (e. g. the left hand), and by producing "right-handed" relative twist of the hands; this "right-handed" twist for propulsion of a lipstick held true whichever end of the container was opened. In the arrangement of Figs. 6 and 7, I have assumed that it may be more convenient to utilize the closure cap 50 (for the closed end of the container) as one of the driving members for the propulsion mechanism, and that the actuating member 32 shall be the other driving member. The internal arrangement of the container may in all respects resemble the structures shown and described in detail in connection with Figs. 1 to 5, except that, if propulsion is to be associated with the same relative manual twist of the hands (e. g. "right-handed"), the direction of relative divergence of the cam means on the relatively rotatable tubular members of the propulsion mechanism should be reversed, the angular disposition of the dog slots in the sleeve, as well as the directions of the angular offsets of the inner tubular member, also being reversed, as will be clear.

The desired transposition of slots in the sleeve may be effected merely by a reverse roll-up of the same flat sleeve blank as was utilized for the sleeve 17 of Figs. 2 and 5. Such a sleeve has been labeled 17' in Fig. 7, and it will be noted that the spiral slot 31' therein has a progression opposite

to that shown in Figs. 2 and 5, while the effective angular coverage of the dog slots 45'—46' has also been reversed. Deformable dogging members, as at 51 on the exposed outer tubular casing 52, may in all respects resemble those described in conjunction with Fig. 2.

Means may be provided for establishing a driving relationship between a closure cap 50 and the outer tubular casing which it covers. In the form shown, such driving relation is established with no impairment of appearance by forming flutes, as at 53, circumferentially around the base or open end of the closure caps 50, and dimples or a similar progression of flutes, as at 54, may be provided at the base of each outer tubular casing 52 for circumferential driving engagement with a closure cap.

It will be appreciated that with the structure described in connection with Figs. 6 and 7, the same relative manual twist may be involved in a propulsion of a lipstick regardless of the end from which the lipstick is to be projected. Furthermore, in view of the dogged nature of the propulsion mechanism when both closure caps are in place, no carrier propulsion will be possible as long as the container is closed, even though externally exposed parts of a closed container may, except for the simultaneous dogging of slots 45'—46', be in driving relation with the propulsion mechanism.

In certain "four-piece" constructions, it may be desirable, for appearance's sake, that the circumference of the closure cap shall not be smooth over any part of its length, as, for example, when longitudinal flutes extend the full length of the closure cap, as in the case of the closure cap 55 of Fig. 8. It may be desired, again for appearance's sake, that, when a closure cap has been removed, the exposed outer tubular casing shall be as continuously smooth as possible, as in the case of the outer tubular casing 56 of Fig. 8. There may be the further requirement (as in the case of Fig. 6) that the closure cap 55 shall be one of the means for manual actuation of the propulsion mechanism. According to a feature of the invention, I may meet all these requirements in a single construction by providing a deformable lug member which, in addition to establishing the desired resilient frictional hold on a placed closure cap 55 and in addition to performing the desired selective dogging function by means of a radially inwardly deformed lug, may also provide the means whereby rotary driving engagement between the placed closure cap 55 and one of the relatively rotatable members of the propulsion mechanism is achieved.

If desired, the basic structure of Fig. 6 may be made to accommodate a fluted cap 55, the drive being effected via engagement of the lug member 51 with one of the spaces between adjacent flutes of cap 55. In such case, the flutes 54 on the base of the outer casing members 52 will not be needed and the casing members 52 may be smooth and continuous in appearance, as in the case of casing 56 (Fig. 8). If the deformable lug member 51 (Fig. 6) is to be utilized as a driving member, then the lug 44' thereof should be of sufficient radial extent that, when inwardly deformed by placement of cap 55, it (lug 44') will directly abut the inner tubular member 16 before the cap flutes slip over the still outwardly deformed member 51. Of course, when cap 55 is not in place over such a construction, the deformable lug member 51 would have to be even further outwardly extended in order to ride out

of slot 46' upon carrier propulsion out the open end of the container. It will be understood that the individual angular dispositions of slots 45'—46' with respect to the cam slot 23 are not critical, and that for purposes of the direct abutment, just described, between lug 44' and the surface of the inner tubular member 16, the slots 45'—46' and the lugs 44' cooperating therewith may be struck at angularly displaced positions relatively to slot 23, without impairing the selective dogging functions that have been already described.

In the form shown in Figs. 3—10 a deformable member 57 is utilized which need not project or extend radially out of the casing 56 to the extent necessary with the above described use of lug member 51 (Fig. 6). The deformable member 57 may, however, also be struck out of the material of the outer tubular casing 56, as from a generally L-shaped blank, with the upper end of the main stem of the L remaining integral with the body of the outer tubular member 56. The main stem of the L may then be merely humped or crimped, as at 58, to form a projection to ride in one of the pockets or recesses 59 (Fig. 10) between adjacent flutes of a closure cap 55. On the hump 58, the side or edge 60 which faces the open end of the container is preferably lower (that is, less raised out of the body of casing 56) than the side or edge 61 which faces the center of the container. The hump 58 is thus longitudinally sloped, and the sloping may be achieved by a bend of the free end of the L, in a longitudinal direction, toward the longitudinal center of the container, after initial formation of the hump 58. When the L-shaped member 57 has been thus displaced, the heel 62 thereof preferably overstands a footing, which may be part of the main body of the outer tubular casing 56.

The dogging lug 44'' may be formed simultaneously with one of the above-described bending operations, by merely inwardly bending the toe of the L, as shown in detail in Fig. 9. The length of the dog lug 44'' in the radially inward direction is preferably such that, in the normal outwardly displaced position shown in Fig. 9, the lug 44'' clears the outer surface of the sleeve 17', while, at the same time, the heel 62 is spaced slightly radially outwardly of the surface of the outer tubular casing 56. The extent of this spacing is preferably such that when a closure cap 55 is placed over the open end of the container, the hump 58 will engage a recess 59 between adjacent flutes and will serve to cam the member 57 radially inwardly, substantially into abutment with the outer surface of the outer tubular casing 56, as at the heel 62. When thus inwardly driven, the lug 44'' is preferably in engagement with one of the dog slots 46' in the sleeve 17'.

It will be clear that the described deformable member 57 may not only perform the dogging functions and the cap-holding functions described in connection with the other deformable members 43—51 (Figs. 1 and 6), but that rotary driving engagement may be effective between flutes of the closure cap 55 and the hump 58. This driving engagement may be positive due to the limiting (at 62) of radially inward displacement of the member 57 and, since such displacement is limited before any part of member 57 can strike the outer surface of the sleeve 17', there will be no binding of relatively rotating parts so as to impair operation of the propulsion mechanism. It will be noted that, if the leading

edge 60 of the deformable member 57 is formed with a sufficiently negligible radial elevation out of the surface of the outer casing 56 and if such edge 60 is slightly rounded (as will naturally occur in a stamping or piercing operation), the entrance of a cap 55 over the member 57 may be non-fouling and therefore not destructive of the member 57.

If desired, structural stability of the member 57 may be enhanced by so forming the lug 44'' that, when the hump 58 has been raised and longitudinally twisted as shown, the lug 44'' will be substantially immediately adjacent the back wall 63 of the piercing opening for the member 57. For purposes of clarity in Fig. 9 this relationship may not be immediately apparent, but it will be understood that axial movement of the lug 44'' upon placement of the closure cap may be limited by abutment of lug 44'' against the back edge 63 of the piercing opening.

As indicated generally above, features of my invention are also applicable to double-ended analogies of so-called "three-piece" container constructions; such an arrangement is shown in Figs. 11 to 14. In this arrangement, the double-ended carrier 15 of the previously described arrangements may be utilized. The carrier 15 may be longitudinally slidable within the bore of an open-ended inner tubular member 70 extending substantially the full length of the container. The other tubular member may be an outer casing 71, also extending for substantially the full length of the container and rotatable relatively to the inner tubular member 70.

Suitable cooperating means between the two tubular members 70—71 may be provided for mutual retention against relative axial movement, and in the form shown enlargements or bases 72—73 carried at the ends of the inner tubular member 70 radially outwardly overlap parts of the ends of the outer tubular member or casing 71. The enlarged end 72 carried by the inner tubular member 70 may be integrally formed therewith, as shown in detail in Fig. 13, and I have formed a set of uniform peripheral flutings on the end 72, for a purpose to be explained; nevertheless, it will be understood that a smooth axially retaining ledge may be defined at 74 for rotary sliding engagement with a rim including inwardly directed parts, as at 75, at the upper end of the outer casing 71. At the lower end of the inner tubular member 70, I prefer that the enlargement 73 be defined by a separate member to be assembled to the smooth tubular end 76 of member 70 after assembly of the outer tubular member 71 thereon. As in the case of the end 72, the end 73 may be formed with flutings and with a radial ledge or shoulder 77 to provide a smooth bearing for the lower end or rim 78 of the outer tubular member 71. Inwardly depressed nibs 79 on the end member 73 may lock into slots 80 upon assembly of the end member 73 to the inner tubular member 70, as will be clear.

As in the case of the conventional single-ended "three-piece" container constructions the inner tubular member 70 and the outer tubular member 71 may each include means to cooperate with a cam follower or eyelet 22 of the carrier 15 for longitudinal propulsion of the carrier upon relative rotation of the tubular members 70—71. Such means may include relatively diverging slots as in the case of the described "four-piece" constructions, but in the form shown the cam means on the outer tubular member 71 is an in-

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wardly facing groove which, for appearance's sake may be one of a plurality of similar grooves or channels 81—82 angularly spaced about the periphery of the outer tubular member 71. These outer grooves 81—82 may be spirally 5 formed to cooperate with a straight slot in the inner tubular member 70; but in the form shown the spiral cam means is a spiral slot 83 on the inner tubular member 70, while the grooves (including the ornamental grooves 81 and the cam 10 groove 82) are straight. As in the case of one of the cam slots of the described "four-piece" constructions, one of the cam means of the arrangement of Fig. 11 may include opposed angular 15 offsets at each end, as at 84 for the ends of spiral slot 83, in order to hold the carrier 15 in a projected position with a lipstick 85 extending out the open end of the container.

It will be appreciated that, with the described construction, carrier propulsion may be achieved 20 upon grasping and upon relatively rotating the outer tubular member 71 and one of the end members 72—73 for the inner tubular member 70. In accordance with a feature of the invention one of the end members 72—73 is effectively grasped by an engagement with a placed closure cap 86, and the closure cap may include means such as an 25 angular discontinuity or, for appearance's sake, a plurality of flutes 87 at the closed end, for angular locating engagement with one of the ends 72—73. Thus, to operate the lipstick of Fig. 11 when 30 only one closure cap 86 is in place, the closure cap itself may be grasped with one hand (e. g. with the right hand), and the exposed end of the outer tubular member 71 may be grasped 35 with the other hand. When thus grasped, a relative right-handed twist of the hands will propel the lipstick 85 out the open end of the container, and a relative left-handed twist will retract the lipstick 85. It will be understood that if the 40 closure means 86 had been placed on the upper end of the container with the lower end open so as to expose the lipstick 88 for projection, then also by grasping the closure cap 86 with the right-hand and by grasping the exposed part of the 45 outer tubular member 71 with the left hand, the same respective relative rotations or twists of the hands may achieve propulsion and retraction of the lipstick 88 at the then-open lower end of the container.

In accordance with a feature of the invention, externally projecting means may be provided to assist in removing a particular closure cap from the closed container so as to expose or open a 50 desired single end of the container. For this purpose, a ring member 89 may be centrally located around the container and radially exposed outside the closure cap, as for a finger or fingernail engagement. The ring 89 need form no part of the grasping or actuating means for the propulsion mechanism, but it may present a pleasing 55 appearance and may be anchored axially and angularly to the outer tubular member 71. As in the case of the ring 32 for the previously described construction, the ring 89 may be a cast plastic or a screw-machine metal part. The internal contour of the ring 89 preferably closely conforms to the undulating or channelled periphery of the outer tubular member 71, so as 60 to permit ready sliding insertion thereover. Suitable axial-locating nibs 90 may be formed out of the main tubular body of the outer tubular member 71 for the purpose of axially locating the ring 89.

In accordance with a further feature of the 65

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invention, selective dogging means may be built into the "three-piece" construction of Fig. 11 to achieve substantially the results of the above-described "four-piece" constructions. Such 5 means may, for each end of the container, comprise a lug 91—92 struck out of the material of the outer tubular member 71 and normally outwardly bent for easy sliding resilient interception of a placed closure cap 86. If the lugs 91—92 are 10 formed near the center of the container and in the cam groove 82, then the lugs 91—92 may (when inwardly actuated) directly dog a movement of the carrier 15 as by interception of the eyelet 22. For the case depicted in Fig. 11, the 15 lug 92 is inwardly displaced to perform this function of intercepting the carrier for all carrier positions lower than the center of the container, and, since the lug 91 has been left free to assume its normal outwardly displaced position, the carrier 15 will not be prevented from being propelled 20 out the open end of the container. After the lipstick 85 has been fully retracted from such a propelled position, the lug 92 will serve to limit or to determine a bottom position of retraction, and an upper closure cap (similar to the closure cap 86) 25 may be placed over the open end of the container, thereby deforming the lug 91 inwardly and effectively locking the carrier against projection of the lipstick 85. Thus, it will be clear that with 30 both closure caps in place the carrier-propulsion mechanism may be effectively dogged or neutralized.

Assembly of the described container construction may involve the following order of operations. First, the carrier tube 15 (without the 35 eyelet 22) may be inserted in the tubular member 70. Second, the eyelet 22 may be formed by drifting the same through the spiral slot 83 in the inner tubular member 70. Third, the outer tubular member 71 may be inserted over the small end of the inner tubular member 70, taking care that the open end 94 of the straight groove 82 which is to be used for cam purposes is aligned 40 with the eyelet 22. Fourth, the ring 89 may be slid over the outer tubular member 71 via the small end of the inner tubular member 70 and snapped into place by means of nibs 90. Fifth, the end member 73 may be locked in place over the small end of the inner tubular member 70. 45 Sixth, the carrier 15 may be propelled by relative rotation of the tubular members 71—72 for extension to one end of the container. Seventh, a closure cap 86 may be placed over the other end of the container. Eighth, the closure cap 86 and the exposed part of the outer tubular member 71 50 may be relatively rotated to retract the carrier against the central stop determined by one of the lugs 91—92. Ninth, the other closure cap may be placed over the remaining open end of the container.

It will be appreciated that I have described improved and relatively simple swivel-type cosmetic or the like containers characterized by a selective double-ended operation and by employment of a common propulsion mechanism for 55 both ends. My constructions feature a minimum of additional parts over those required for more or less conventional single-ended containers, and forms analogous to present "three-piece" and "four-piece" constructions may readily be made. All of my constructions incorporate safety features to assure propulsion of a lipstick only out of a free or open end of the container, and it is 60 not possible to drive a lipstick against a closed end of the container. Also, as a feature of my

construction, the relative twist of the hands may be the same for lipstick propulsion no matter which end of the container is to be used; even though cam-divergence is continuous and in the same direction in a propulsion mechanism common to both ends of the container.

While I have described my invention in detail for the preferred forms shown, it will be understood that modifications may be made within the scope of the invention as defined in the appended claims.

I claim:

1. In a container of the character indicated, two relatively rotatable open-ended generally tubular members, a carrier longitudinally movable within said members, a single propulsion system for propelling said carrier from one end to the other of said members upon relative rotation of said members, closure means for selectively closing each open end of said container, means for relatively rotating said members to propel said carrier only out one end of said container and externally accessible for manual actuation when only one end of said container is closed by said closure means, and the other means for relatively rotating said members to propel said carrier only out of said other end of said container and externally accessible for manual actuation when only said one end of said container is closed by said closure means.

2. In a container of the character indicated, two relatively rotatable open-ended generally tubular members, a carrier longitudinally movable within said members, a single propulsion system for propelling said carrier from one end of said members to the other upon relative rotation of said members, first and second closure means for selectively closing each open end of said container, means cooperating with said first closure means upon closure of one open end of said container for preventing such relative rotation of said tubular members as will propel a carrier-supported lipstick or the like against said first closure means while at the same time relatively freely permitting such relative rotation of said tubular members as will propel a carrier-supported lipstick away from said first closure means, and means cooperating with said second closure means when the other open end is closed for preventing such relative rotation of said tubular members as will propel a lipstick on said carrier against said second closure means while at the same time relatively freely permitting such relative rotation of said tubular members as will propel a carrier-supported lipstick away from said second closure means.

3. In a container of the character indicated, two relatively rotatable open-ended generally tubular members, propulsion means on said members and common to both ends of said container, a carrier longitudinally movable by said propulsion means and within said members upon relative rotation of said members, said carrier being retracted from both said ends when in a longitudinally central position, separate closure means for selectively closing each of the open ends of said container, and means separately cooperating with each said closure means when both said ends have been closed for effectively holding said carrier in retracted position intermediate said ends.

4. In a container of the character indicated, two relatively rotatable open-ended generally tubular members, continuous propulsion-cam means running effectively from end to end of

said members, a carrier longitudinally movable within said members and including means engaging said cams means for propulsion of said carrier upon relative rotation of said members,

5. a longitudinally centrally located externally exposed ring non-rotatively related to one of said tubular members, whereby said ring may be a means for manual actuation of the tubular member to which said ring is non-rotatively related, a removable closure cap slidably receivable over one open end of said container for limiting abutment with said ring, and radially movable means carried by one of said tubular members and movably engageable with said closure cap upon placement of the same, said last-defined means preventing carrier propulsion toward said cap after placement thereof while permitting carrier propulsion away from said cap.

5. In a container of the character indicated, relatively rotatable open-ended tubular members, a carrier longitudinally movable within said members upon relative rotation of said members, means formed out of an outer member and engageable with a closure cap upon placement of the cap over one open end of said container, said means being effective while said one end is closed by the cap to prevent carrier propulsion in the direction of the cap, said means being ineffective while the other end is open to prevent carrier propulsion in the direction of the uncapped end.

6. In a container of the character indicated, relatively rotatable open-ended tubular members, a carrier longitudinally movable within said members upon relative rotation thereof, the available path of movement of said carrier extending from substantially one end to substantially the other end of said container, a movable dog carried by one of said members and projecting for interception by a closure cap upon placement of the same over an open end of said container, said dog being movable when so intercepted effectively to limit the extent of relative rotation of said members to an extent determining substantially one half the said available path of movement of said carrier, and a second movable dog carried by one of said members and projecting for interception by a closure cap upon placement of the same over the opposite open end of said container, said second-mentioned dog being movable when so intercepted effectively to limit the extent of relative rotation of said members to an extent determining substantially the other half of said available path of movement.

7. A container according to claim 6, in which said carrier includes a radially extending follower member coacting with propulsion means on each of said tubular members, and in which said dog is moved into the path of said follower member upon interception by said cap.

8. In a container of the character indicated, relatively rotatable open-ended tubular members, a carrier longitudinally movable within and for substantially the full length of said members upon relative rotation thereof over a given range of relative angular displacement, first means including an abutment movably responsive to placement of a closure cap over one open end of said container and actuable to determine a first permissible relative angular displacement of said members within said given range, further means including an abutment movably responsive to placement of a closure cap over the other end of said container and actuable to determine a second relative angular displacement of said

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members within said given range, said first angular displacement and said second angular displacement being effectively angularly offset from one another and within said given range.

9. A container according to claim 8, in which said first and said second permissible angular displacements effectively overlap for a relative angular position of said members wherein said carrier is longitudinally retracted from both ends of said container.

10. In a container of the character indicated, a carrier including a cam follower, an open-ended inner tubular member, a sleeve member outside said inner tubular member, said members having relatively diverging generally longitudinally extending slots to cooperate with said carrier cam follower for longitudinal propulsion of the carrier within said inner tubular member, actuating means non-rotatably related to said sleeve member and generally longitudinally centrally located for external manual access, and outer-casing means non-rotatably related to said inner tubular member and substantially encasing the otherwise exposed portions of said sleeve member, and separate dog means carried at both ends by said outer casing means and cooperating with closure cap means placed over the respective ends to limit carrier propulsion toward a closed end of said container, whereby lipstick or the like on said carrier may be propelled upon relative rotation of said manually accessible means and of said outer-casing means only out an open end of said container.

11. In a container of the character indicated, two relatively rotatable open-ended generally tubular members, a carrier member longitudinally movable within said members upon relative rotation thereof, a dog angularly retained by one of said tubular members and including a part projecting for interception by a closure cap upon placement of the closure cap over one end of said container, abutment means on another of said members for interception by said dog and serving when so engaged to limit the longitudinal propulsion of said carrier to a fraction of the otherwise available total longitudinal propulsion of said carrier, said dog including means projecting for angular interlocking engagement with a discontinuity on the closure cap, whereby propulsion of said carrier to the extent represented by said fraction may be achieved upon manually operated relative rotation of the closure cap and of the other of said tubular members.

12. In a container of the character indicated, a carrier, an open-ended inner tubular member and an open-ended outer tubular member having cooperating cam means to propel said carrier within said members to either open end thereof, means at each end of said inner tubular member for relatively non-rotatable engagement with a closure cap placed over each end of said container, whereby when a closure cap is placed over one end of said container said carrier may be propelled toward the other end upon a manual grasping of the closure cap and of the exposed part of the outer tubular member, and separate rotation-limiting means at each end of said container and including separate actuating elements separately engageable with closure caps placed over the respective ends of said container.

13. In a container of the character indicated, two relatively rotatable open-ended generally tubular members, a carrier longitudinally movable within said members, carrier-propulsion

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means carried with said tubular members and common to both ends of said container, externally exposed manually operable means for relative rotation of said members, a closure cap for each open end of said container, deformable means carried at one end of said container and actuatable upon placement of a closure cap over said one end to resist carrier displacement toward said one end, and further deformable means carried at the other end of said container and actuatable upon placement of a closure cap over said other end to resist carrier displacement toward said other end.

14. A container according to claim 13, and including key means non-rotatably related to the inner of said tubular members and keyingly engageable with a closure cap, whereby a selected one of said closure caps may be utilized through said inner tubular member to drive said carrier toward an uncovered end of said container.

15. A container according to claim 13, and including key means non-rotatably related to the outer of said tubular members and keyingly engageable with a closure cap, whereby a selected one of said closure caps may be utilized through said outer tubular member to drive said carrier toward an uncovered end of said container.

16. In a container of the character indicated, two relatively rotatable open-ended generally tubular members, a carrier member longitudinally movable within said members, propulsion means on said members for said carrier member and common to both ends of said container, generally tubular closure caps fitting over the open ends of said container, first dog means coacting between one of said caps and one of said members for limiting carrier propulsion in the direction toward the end closed by said one cap, and second dog means coacting between the other of said caps and one of said members for limiting carrier propulsion toward the end closed by said other cap.

17. A container according to claim 16, in which said dog means are separately and integrally formed out of the tubular member adjacent each cap, and in which said caps are free-swiveling on said container.

18. A container according to claim 16, in which said dog means are separately and integrally formed out of the tubular member adjacent each cap, and in which said caps non-rotatably engage said dog means.

19. In a container of the character indicated, two relatively rotatable sleeves open at both ends and including means retaining the same against axial separation, a carrier within the inner sleeve, carrier-propulsion means common to both ends of said container and including an externally projecting elongated rib on the outer sleeve, said rib defining an inwardly open cam slot, cam-follower means in said slot, and two outwardly deformed inwardly movable lugs carried by said rib, each lug being in inwardly deformed intercepting relation with said cam-follower means when a closure cap is placed over an end of said container.

20. A container according to claim 19, in which said lugs are centrally located along said container and are axially spaced substantially the axial thickness of said cam-follower means, whereby said carrier may be centrally retained when both ends of the container are closed by closure caps.

21. A container according to claim 4, in which said outer member includes key means for non-

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rotating engagement with said closure cap when placed over said outer member, whereby with said closure cap over said outer member at one end of said container and with the other end of said container open said carrier may be propelled upon manually actuated relative rotation of said closure cap and of said ring.

ROBERT B. HOPGOOD.

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