Nov. 26, 1957 M. DULBERG 2,814,384

ROTARY HOLDER

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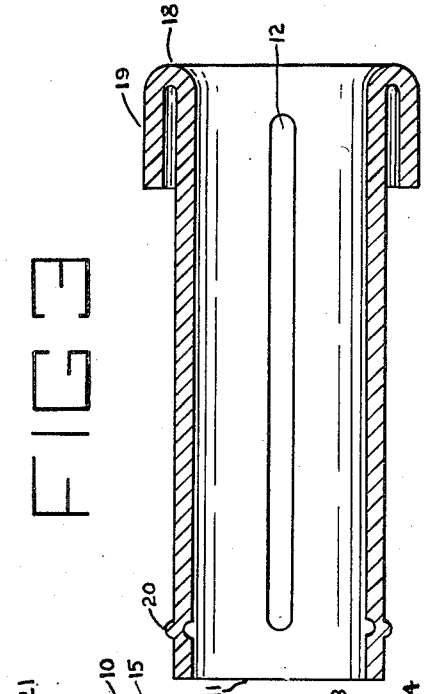


FIG 3

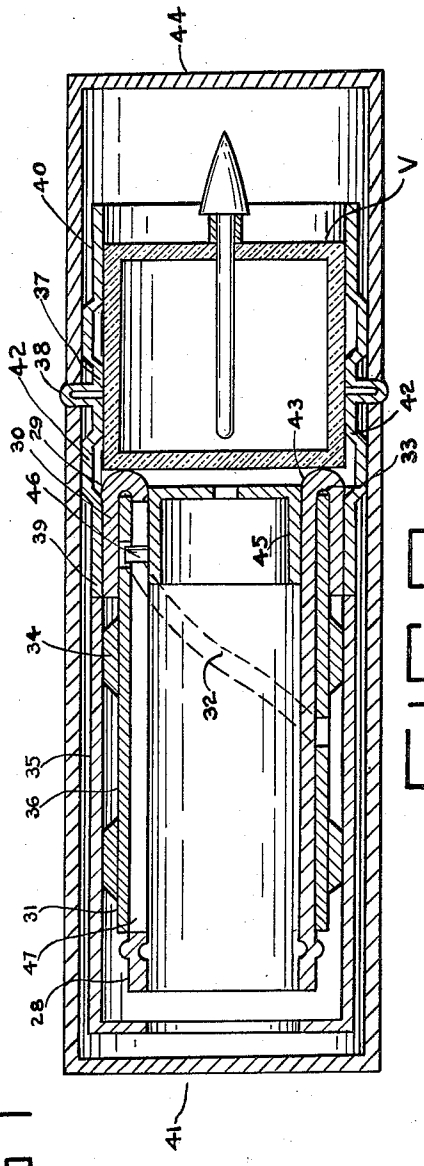


FIG 2

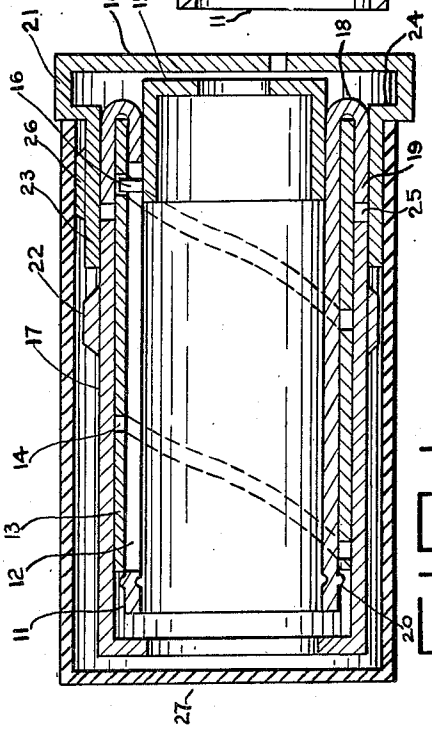


FIG 1

INVENTOR.

BY Murray Dulberg

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ROTARY HOLDER

Murray Dulberg, New York, N. Y.

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4 Claims. (Cl. 206—56)

This invention relates to an article holder of the type having an article carrier arranged for longitudinal movement in response to relative rotation of certain parts for advancing and retracting an article, such as a lipstick, therewithin. Such rotary holders are normally operated by means of relatively rotatable outer members connected, in various ways, to internal members. One of the outer members normally functions as a cover-cap-engaging member to restrain axial movement of the cover cap normally employed for protecting the article contained within the article holder. In many of these rotary holders, the cover-cap-engaging member is connected to the innermost sleeve member and the art has been confronted with the problem of so connecting the cover-cap-engaging member that it will be maintained in concentrically spaced relation to the innermost sleeve member and by an assembling of members which will be characterized by ease and surety of connection of the cover-cap-engaging member and the innermost sleeve member.

The main object of the present invention is to provide a light and well-balanced rotary holder.

A further object of the invention is to provide a rotary holder which is characterized by the ease and surety of connection of the cover-cap-engaging member and the inner sleeve member.

A still further object of the invention is to provide means for so relating the cover-cap-engaging member to the other outer member, which is rotatable relative thereto, as to facilitate the assembling of the cover cap thereon.

The foregoing objects as well as additional objects and advantages of the present invention will be readily apparent in the course of the following detailed description taken in connection with the accompanying drawings which illustrate, by way of example, a preferred embodiment of the invention, and wherein—

Fig. 1 is a longitudinal sectional view of the rotary holder illustrating the internal structure and arrangement of the component members; and the cover cap in assembled position;

Fig. 2 is a longitudinal sectional view of another embodiment of the invention illustrating the internal structure and arrangement of the component members, and with the cover-cap-engaging member shown open at its lower end and the flanged portion of the inner sleeve member providing a shoulder to limit longitudinal movement of the vial shown within the open end of the cover-cap-engaging member, and the cover caps in assembled position;

Fig. 3 is a longitudinal sectional view of the inner sleeve member shown in Figs. 1 and 2, with the numerals employed in Fig. 1 being used to designate the parts.

Referring now to the drawings in detail, the rotary holder **10** comprises an inner sleeve member **11** having a longitudinal slot **12**. A spiral sleeve member **13** having a helical slot **14** is rotatably mounted on inner sleeve member **11**. Article carrier **15** is provided with a laterally projecting pin or the like **16** which extends into

longitudinal slot **12** and helical slot **14** so that upon relative rotation of the inner sleeve member **11** and spiral sleeve **13**, the article carrier **15** will move longitudinally within the inner sleeve member **11**, as is well known in the art. Outer sleeve member **17** is tightly frictionally fitted on the spiral sleeve member **13** so that rotation of the outer sleeve member **17** will be accompanied by rotation of the spiral sleeve member **13** in the same direction, as an operating unit.

In accordance with the present invention, the inner sleeve member **11** is formed, at its lower end, with a curved flanged portion **18** and a cylindrical walled portion **19** which extends upwardly toward the upper end of the inner sleeve member **11**. The flanged portion **18** provides a shoulder to limit the lower end of the spiral sleeve member **13** while the upper end of the spiral sleeve member **13** is limited by the annular bead **20** formed on the inner sleeve member **11** adjacent its upper end. The lower end of the outer sleeve member **17** is limited by the upper end of the cylindrical walled portion **19**.

For purposes that will hereinafter be explained, the outer sleeve member **17** is provided with one or more projections on the outside thereof adjacent to the upper end of the cover-cap-engaging member **21**. These projections, preferably, are formed as elongated ribs **22** having tapered ends but may be slight bumps or dimples which permanently extend outwardly beyond the normal surface of the outer sleeve member **17**. The longitudinally extending ribs **22** are circumferentially spaced about the outer sleeve member **17** but, it will be again noted, that only one of the said ribs may be formed on the outer sleeve member **17**, when so desired.

Cover-cap-engaging member **21** comprises a hollow shell having a reduced upper end portion **23** and a shoulder portion **24** connecting the reduced upper end portion **23** and the remainder of the hollow shell. The cover-cap-engaging member **21** surrounds the lower end of inner sleeve member **11** and the reduced upper end portion **23** is tightly frictionally fitted on the walled portion **19**, so that rotation of the cover-cap-engaging member **21** will be accompanied by rotation of the inner sleeve member **11** in the same direction, as an operating unit. The inner sleeve member **11**, is preferably, made out of flexible, resilient material, so that a spring pressure is created upon the mounting of the cover-cap-engaging member on the walled portion **19** whereby assuring positive yet easy connection between them. A portion of the reduced upper end portion **23** extends over the parting line **25** between the adjacent ends of the outer sleeve member **17** and the walled portion **19** in order to cover the same.

The reduced upper end portion **23** is provided with one or more projections **26** on the outside thereof for frictionally engaging the inner surface of the cover cap **27** whereby the cover cap is held against longitudinal and rotary movement relative to the cover-cap-engaging member, as is well known in the art.

The cover cap **27** is of a size to enclose the outer sleeve member **17** and to frictionally engage the outer surface of the reduced upper end portion **23**. The shoulder portion **24** limits the lower end of the cover cap **27**.

The one or more projections or afore-mentioned ribs **22** on the outer sleeve member **17** provide novel means for symmetrically guiding the cover cap onto end portion **23**. The radius from the center of the outer sleeve member **17** to the outer surface of the projection or ribs **22** is slightly less or equal to the radius from the center of the cover-cap-engaging member **21** to the outer surface of the one or more projections **26**. Upon the mounting of the cover cap **27** on the outer sleeve member **17** and the moving of the lower end portion of the cover cap **27** in slidable contact with the outer surface of the outer sleeve

member 17, the cover cap 27 will come into contact with the said one or more projections or ribs 22 and mount the same thereby radially shifting the center of the cover cap 27 relative to the cover-cap-engaging member 21 to permit the mounting of the cover cap 27 on the cover-cap-engaging member. It will be apparent, that the relationship between opposed surface portions of the outer sleeve member 17 and the cover cap will vary in accordance with the number or size of the projections on the outer sleeve member. Thus, the cover cap 27 may, simultaneously, frictionally engage the outer sleeve member 17 and the cover-cap-engaging member 21, or may be concentrically spaced from the outer sleeve member 17 while frictionally engaging the outer surface of the cover-cap-engaging member.

Referring now, more particularly, to Fig. 2, inner sleeve member 28 is formed, at its lower end, with a curved flanged portion 29 and a cylindrical walled portion 30 which extends upwardly toward the upper end of the inner sleeve member 28. A spiral sleeve member 31 having a helical slot 32 is rotatably mounted on the inner sleeve member 31. The lower end of the spiral sleeve member 31 is limited by the upper face 33 of the flanged portion 29.

On the outside of that portion of the spiral sleeve member 31 which projects from the upper end of the cylindrical walled portion 30 are formed a plurality of elongated hollow ribs or projections 34. The ribs 34 are circumferentially spaced about the periphery of the spiral sleeve member 31 and are formed by the act of striking against the inner surface of the flexible metal wall of the spiral sleeve member 31. The radius from the center of the spiral sleeve member 31 to the outer surface of the ribs 34 is substantially the same as the radius from the center of the inner sleeve member 28 to the outer surface of the cylindrical walled portion 30. Outer sleeve member 35 is tightly frictionally engaged on the ribs 34 which hold the outer sleeve member 35 in concentrically spaced relation to the main body portion 36 of the spiral sleeve member 31.

Tubular cover-cap-engaging member 37 is formed with a circumferentially arranged rib 38 and opposite axially extending tubular portions 39 and 40. On the outside of each of the tubular portions 39 and 40 is one or more projections. As shown in Fig. 2, the projections are formed as elongated hollow ribs circumferentially spaced about the opposite tubular portions 39 and 40. The cover-cap-engaging member 37 is tightly frictionally fitted on the walled portion 30, so that rotation of the cover-cap-engaging member 37 will be accompanied by rotation of the inner sleeve member 28 in the same direction, as an operating unit. The inner sleeve member 28 is, preferably, made out of flexible, resilient material, so that a spring pressure is created upon the mounting of the cover-cap-engaging member 37 on the walled portion 30 whereby assuring positive yet easy connection of the latter two members.

The outer surface of the cover-cap-engaging member 37 is substantially flush with the outer surface of the outer sleeve member 35 to provide a compact article holder and to concentrically guide the cover cap 41 onto the cover-cap-engaging member 37.

The cover cap 41 is of a size to enclose the outer sleeve member 35 and to frictionally engage the outer surface of tubular portion 39, with the circumferential rib 38 limiting the lower end of the cover cap 41. It will be apparent that the relationship between opposed surface portions of the outer sleeve member 35 and the cover cap 41, in assembled position, will vary in accordance with the number of ribs 42 on tubular portion 39. Thus, when a single elongated hollow rib 42 is formed on the tubular portion 39, the cover cap will enclose the outer sleeve member 35 in slidable contact therewith and upon mounting the rib 42, the center of the cover cap 41 will shift radially so that its wall portion opposite rib 42 will more

closely frictionally engage the adjacent surfaces of both the outer sleeve member 35 and the tubular portion 39. When a plurality of elongated ribs 42 are circumferentially spaced about the tubular portion 39, the cover cap upon mounting the ribs will be held in concentrically spaced relation to the outer sleeve member 35.

It will be noted that tubular portion 40 of the cover-cap-engaging member 37 extends longitudinally past the lower end of the inner sleeve member 31 and provides a housing for an article, such as a vial V for perfume or other suitable material. The lower face 43 of the flanged portion 29 provides a shoulder for limiting the longitudinal movement of the vial V in one direction. Cover cap 44 surrounds the lower end of the cover-cap-engaging member 37 and frictionally engages the outer surface of tubular portion 40 with the circumferential rib 38 providing a seat for the cover cap 44.

Article carrier 45 is provided with a laterally projecting pin or the like 46 which extends into a longitudinal slot 47 of the inner sleeve member 28 and the helical slot 32 of the spiral sleeve member 31, so that rotation of the latter two members relative to each other will cause advancement and retraction of the article carrier 45 relative to the said latter two members, as is well-known to the art.

It will be understood that the component members of the present invention are, preferably, made out of flexible metal but may be made out of any other suitable material.

It will, also, be understood that the present invention is not restricted to the details described above and shown in the drawing and may be carried out with various modifications without departing from the spirit and scope of the invention as defined in the appended claims.

What is claimed is:

1. In an article holder, an inner tubular member, two longitudinally related and relatively rotatable outer tubular members, an article carrier in said inner tubular member, means for moving said article carrier longitudinally of said tubular members in response to relative rotation between said outer tubular members, said inner tubular member at one end being formed with a flanged portion, said flanged portion having a longitudinal walled portion extending from the outer perimeter thereof and toward the other end of said inner tubular member, said longitudinal walled portion frictionally engaging the inner surface of one of said outer tubular members for conjoint rotation, and a cover cap of a length to enclose the other of said outer tubular members and to frictionally engage the outer surface of said one of the outer tubular members.

2. In an article holder, an inner tubular member, two longitudinally related and relatively rotatable outer tubular members, an article carrier in said inner tubular member, means for elevating and retracting said article carrier in response to relative rotation between said outer tubular members, a removable cover cap surrounding the upper end of one of said outer tubular members and having an inner surface portion thereof frictionally engaging the outer surface of the other of said outer tubular members, said inner tubular member at its lower end being formed with a flanged portion and having a longitudinally extending walled portion rising from the outer perimeter of said flanged portion, said walled portion frictionally engaging the inner surface of said other of the outer tubular members for conjoint rotation.

3. In an article holder, an inner tubular member made out of flexible metal, two longitudinally related and relatively rotatable outer tubular members, an article carrier in said inner tubular member, means for elevating and retracting said article carrier in response to relative rotation between said outer tubular members, said inner tubular member at its lower end being formed with a curved flanged portion and having a longitudinally extending walled portion rising from the outer perimeter of said flanged portion, said walled portion frictionally engaging the inner surface of the outer tubular member adjacent to

said flanged portion for conjoint rotation, said flanged portion normally lying in the path of movement of said adjacent outer tubular member so that a spring pressure is created upon the mounting of said adjacent outer tubular member on said walled portion to assure said conjoint rotation.

4. An article holder, as claimed in claim 3, wherein the lower end portion of said adjacent outer tubular member extends longitudinally past the lower face of said flanged portion of the inner tubular member and the lower end of said adjacent outer tubular member is open to provide receptacle means, said lower face of the flanged portion providing shoulder means.

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