A holder for lipsticks or the like is of the known kind comprising two relatively rotatable co-axial sleeves with a projecting control knob on the inner sleeve. A sliding holder for the stick has lugs extending through slots in the inner sleeve and into slots in the outer sleeve. One set of slots is longitudinal and the other helicoidal. The slots in the inner sleeve are open at the end further from the control knob. A transparent cover or shell for the stick is fitted onto the sliding holder. The invention is characterized in that the shell has an internal shoulder equal in diameter to the end part of the sliding holder on which it is mounted. The inner sleeve has an internal flange at that end further from the control knob and of a diameter between the internal diameter of the shell and the diameter of the internal shoulder. An annular space remains between the end of the shell and the remainder of the sliding holder, its axial length being not less than the axial length of the flange. When the lipstick is to be first used it is caused to project until the flange enters said space. The stick is then withdrawn somewhat leaving the shell abutting the flange. The shell is then discarded.

5 Claims, 6 Drawing Figures
HOLDERS FOR HOUSING PASTY MATERIALS

The invention relates to holders for housing pasty materials in stick form, such as make-up, pomades, cosmetics, pharmaceutical or veterinary materials or the like, of the type comprising two co-axial sleeves moulded of plastics material which can turn one inside the other, a control knob integral with one end of the inner sleeve and projecting from the corresponding end of the inner sleeve, a sliding holder for the stick which is movable in the inner sleeve and which carries at least one lug extending through a longitudinal slot in the inner sleeve and also engaging in a helical slot in the outer sleeve, one of these slots being longitudinal and the other helicoidal, the slot in the inner sleeve opening at that end thereof opposite to the end integral with the control knob, as well as a transparent protective shell for the stick, of which an open end is fitted onto the corresponding end of the sliding holder.

The invention relates more particularly to means which ensure automatic ejection of the protective shell for the stick before the first use of the loaded holder.

There are already known holders of the kind in question in which the end of the outer sleeve, through which the stick emerges, has an internal flange which rubs against the outer surface of the protective shell of the stick when it emerges for the first time and which lightly grips on the sliding holder after the end of the said shell fitted on the sliding holder has cleared this flange, in such a manner that with a slight return of the sliding holder, the protective shell is ejected by the flange. Madsen U.S. Pat. No. 3,393,036 is typical of this type of construction. However, in this known system wherein the diameter of the internal flange is slightly less than the outer diameter of the protective shell of the stick, a two-component frictional resistance is produced between the internal flange and the outer surface of the shell during the first emergence of the protective shell containing the stick. Indeed, upon actuating such holder the shell and stick are not only displaced axially toward and through the open sleeve ends, but simultaneously effect a rotating motion with respect to the outer sleeve. Consequently the reduced diameter inner flange which frictionally contacts the shell surface opposes not only the axial displacement of the shell, but also its rotary motion. This results in a comparatively difficult or non-smooth operation of the holders of this kind during their first use.

Holders are also known in which the end of the shell fitted to the sliding holder is split to form longitudinal legs which open out slightly when the shell is fitted on the sliding holder and which serve as thrust members for the ejection of the shell by an internal flange on the corresponding end of the inner sleeve, somewhat in the same way as in the known holders just referred to above. Such a holder is disclosed in my copending application Ser. No. 26,226 filed Apr. 7, 1970. This last form of holder also has disadvantages. In fact, the lightly expanded legs of the protective shell exert a certain force on the inner sleeve, which gives rise to frictional forces which oppose relative sliding movement of the two components. Further, these legs are lightly compressed against the end of the sliding holder, so that, if the holders are in stock for a long time, said legs can remain curved and do not spread out sufficiently for the correct ejection of the protective shell.

The aim of the invention is to provide a holder in which the ejection of the protective shell of the stick can be made in a reliable manner and without having to overcome appreciable resistance in the operation of the device.

To this end, according to the invention, the end part of the protective shell for the stick mounted on the corresponding end of the sliding holder has an internal shoulder or counterbore of which the diameter is equal to the outer diameter of the corresponding end of the sliding holder, whereas the end of the inner sleeve, through which the stick can emerge, has an internal flange of which the diameter is between the internal diameter of the shell and the diameter of its internal shoulder or counterbore, an annular space remaining unoccupied between the annular end face of said end of the shell and the remainder of the sliding holder of an axial length at least equal to the axial length of said flange.

Thanks to this particular arrangement, the protective shell of the stick is ejected in a reliable manner when it is engaged, around the whole of its periphery, by the corresponding end of the inner sleeve. Further, as this end of the inner sleeve is slit, it can easily open slightly so as to slide effortlessly over the outer surface of the protective shell of the stick. Further, when the holder is closed, no part is under constraint and in particular the flange at the end of the inner sleeve faces the pointed end of the protective shell for the stick so that, even if the holder is in stock for some time, none of the parts risks being submitted to permanent deformation deleterious to its correct functioning, in particular at the moment when the shell is ejected.

Moreover, as the diameter of the internal flange on the inner sleeve is at least equal to the internal diameter of the protective shell of the stick, there is no risk of the flange producing grooves in the stick when the latter is made to emerge or when it is returned into the holder.

With a view to making the operation of the device even more gentle, in an advantageous embodiment the end of the outer sleeve, through which the stick emerges, is recessed relatively to the corresponding end of the inner sleeve by an amount sufficient to allow said flange on the inner sleeve to open resiliently without appreciable force up to a diameter equal to external diameter of the shell.

The invention will be better understood by reading the following description and examining the accompanying drawings which show, by way of non-limitative example, invention.

In these drawings:
FIG. 1 shows, in longitudinal section, an assembled holder closed;
FIG. 2 is a cross-section of the protective shell for the stick alone;
FIG. 3 is a larger scale, a detail of FIG. 1, and FIGS. 4, 5 and 6 illustrates the successive stages in the ejection of the protective shell for the stick.

The holder for housing a pasty material in stick form, for example lipsticks, shown in its entirety in FIG. 1, comprises essentially a sliding holder serving as a support for a stick of lipstick covered with a protective shell 3 generally called an ogive, an inner sleeve 4, an outer sleeve 5, and a tubular metal body 6 usually enclosed within a cover 7, the base 9 of the inner sleeve 4,
which forms a control knob, often being, in this case, itself covered with a cap of a diameter corresponding to that of the cover 7.

All of these components, with the exception of the tubular body 6, and possibly the cover 7, are of a ther-
mo-plastic material.

The sliding holder 1 is provided with two diametri-
cally opposed radial lugs, such as 12, which extend through longitudinal slots 14 in the inner sleeve 4 and which are engaged, at the same time, in two helicoial slots 16, 17 formed in the inner cylindrical face of the outer sleeve 5.

The axial position of the two sleeves, one relative to the other, is ensured by two annular shoulders 21, 22 on the inner sleeve 4 against which bear the cor-
responding ends of the outer sleeve 5.

By means of the extension 9 of the inner sleeve 4, which forms the control knob, possibly covered with the cap 8, one can turn this sleeve relatively to the outer sleeve and ensure, consequently, a corresponding sliding movement of the sliding holder for the stick 1 inside said sleeves.

The metal body 2 engages the outer sleeve 5 with a certain friction, preferably very small so as not to deform the sleeve 5 on which it is mounted and not to risk jamming of the mechanism.

The upper part of the protective shell 3 for the stick of lipstick 2 is, at least in diametral view, of ogival form 24 (FIG. 2), whereas the main part 25 of this shell is of cylindrical form; its end fitted to the corresponding end of the sliding holder 1 has an internal shoulder 27 or counterbore of which the diameter D1 is equal to the diameter D2 (FIG. 1) of said end of the sliding holder.

The end of the inner sleeve 4, opposite to that which is integral with the control knob 9, that is to say the end through which the stick 2 emerges, has an internal flange 28 (see also FIG. 3) of which the diameter D3 is between the internal diameter D4 (FIG. 2) of the protective shell 3 and the diameter D1 of its internal shoulder 27.

An annular space 29 (FIGS. 1 and 4) remains unoc-
cupied between the annular end face of the end of the protective shell 3 fitted on the sliding holder 1 and the remainder of said sliding holder. The axial extent E of this annular space is at least equal to the axial length of the flange 28 on the inner sleeve 4, so that this flange can, at a certain moment, enter this annular space, as will be seen below.

Finally, in the embodiment illustrated, the remainder of the sliding holder 1 has an outer diameter D5 (FIG. 1) substantially equal to the outer diameter D6 of the protective shell 3 for the stick.

In the embodiment illustrated, the end of the outer sleeve, opposite the control knob 9, is recessed over a length L (FIG. 1) relatively to the corresponding end of the inner sleeve 4. This length is given a value sufficient to allow the flange 28 to open resiliently without appreciable force up to a diameter equal to the outer diameter D6 of the protective shell 3.

The operation of the holder is as follows:

When it is loaded at the factory, it is as shown in FIG. 1 where it will be noted that none of the components is submitted to any constraint.

In fact, the flange 28 of the inner sleeve, which has a diameter D3 slightly less than the diameter D6 of the cylindrical part 25 of the protective shell 3, is not opposite this cylindrical part of the shell, but faces the pointed end thereof, that is to say that it is a long way from being in contact with it.

When one wishes to use the stick for the first time, one will begin by proceeding to eject the protective shell 3. To this end after having removed the cover 7, if it is present, one turns the inner sleeve 4 in the outer sleeve 5 by operating the knob 9 in the usual manner, which causes the sliding holder 1 and the stick 2 covered by its protective shell 3 to rise in the inner sleeve 4. The stick 2 and its shell 3 begin to emerge through the top opening in the two sleeves and, as the outer diameter D6 of the protective shell 3 is equal to the outer diameter D5 of the sliding holder 1, this sliding movement can be effected without friction. From the moment when the cylindrical part 25 of the protective sleeve 3 begins to pass through the flange 28 of the inner sleeve, it opens this flange very slightly, with an outward flexing movement of the corresponding end of this inner sleeve. The necessary deformation is very slight and, as the end of the outer sleeve 5 is recessed over the length L relatively to the end of the inner sleeve, the deformation in question is effected by an in-
significant force so that the movement continues to be very easy.

This movement is continued until the end of the travel of the sliding holder as shown in FIG. 4. At this moment the protective shell 3 is completely outside the sleeves. One then proceeds to a return movement of the sliding holder by turning the control knob 9 in the reverse direction; the flange 28 of the inner sleeve falls into the annular space 29, (FIG. 5) that is to say it con-
tracts beneath the end of the protective shell 3; the sliding holder 1 continues to travel along the interior of the sleeves and carries with it the stick 2, whereas the protective shell 3 abuts against the outer end of the inner sleeve 4 and is disengaged from the stick 2, as shown in FIG. 6. One can take hold of the protective shell 3 or just as well allow it to fall.

It will be noted that, consequently, each time one uses the stick 2, the sliding movement which one has to effect to cause it to emerge from the sleeves of the holder, does not risk forming longitudinal grooves in its outer surface as its diameter is equal to the internal diameter D4 of the protective shell 3 and as this diame-
ter is less than the diameter D3 of the flange. Thus there always remains a small annular gap between the flange and the stick.

Of course the invention is not limited to the embodi-
ment described and illustrated, which has been given by way of example; one can introduce modifications, according to the applications envisaged, without de-
parting from the scope of the invention.

I claim:

1. An improved holder for a stick of pasty material, such as a lipstick, comprising an inner sleeve having at least one longitudinal slot; an outer sleeve concentri-
cally and rotatably surrounding said inner sleeve and having at least one helical groove in its inner wall; a stick-support axially movable within said inner sleeve, and having at least one radial lug extending through said longitudinal slot and engaging said helical groove; said inner sleeve having at its lower end an actuating knob which protrudes from the lower end of said outer
3,706,500

sleeve; a stick; said stick-support being adapted to receive and mount said stick; and a protective shell covering said stick, the lower end portion of said protective shell being removably telescoped on a corresponding upwardly directed end portion of said stick-support, which stick-support end portion has a reduced outer diameter with respect to the outer diameter of the portion of said stick-support immediately therebelow; and which shell defines a counterbore at and internally of the lower end portion thereof of a diameter greater than the internal diameter of the shell immediately above the counterbore; the improvement comprising providing at the open upper end of said inner sleeve an inwardly directed resilient flange means defining an inner diameter slightly less than the inner diameter of said shell counterbore but greater than the internal diameter of the remainder of the inner portion of said shell, the counterbore of the shell having an axial length less than the axial length of said reduced diameter end portion of the stick-support by an amount at least equal to the axial dimension of the inner face of said inwardly directed flange means whereby said inner face may project into said end portion of reduced outer diameter below the lower end of the shell to facilitate removal of said shell.

2. An improved stick holder in accordance with claim 1, wherein the end portion of said inner sleeve provided with said inwardly directed flange means projects outwardly beyond the adjacent open end of said outer sleeve by an amount sufficient to permit said resilient flange means to be elastically deformed radially outwardly without appreciable resistance and to an extent so that the inner diameter of said flange means may temporarily correspond to the outer diameter of said protective shell.

3. An improved stick holder in accordance with claim 2, wherein said outwardly projecting end portion of said inner sleeve has a wall thickness greater than that of the portion of said inner sleeve immediately therebelow.

4. An improved stick holder in accordance with claim 2, wherein said outer sleeve is mounted in a protecting tube of which an upper end portion projects upwardly beyond the upper end of said outer sleeve, the axial length of the tube upper end portion being at least equal to the length of the projecting end portion of said inner sleeve, said inner sleeve projecting end portion having an outer diameter which is less than the inner diameter of the protecting end portion of the tube.

5. An improved stick holder in accordance with claim 3, wherein said outer sleeve is mounted in a protecting tube of which an upper end portion projects upwardly beyond the upper end of said outer sleeve, the axial length of the tube upper end portion being at least equal to the length of the projecting end portion of said inner sleeve, said inner sleeve projecting end portion having an outer diameter which is less than the inner diameter of the protecting end portion of the tube.

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