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M. ALLAND

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MUCILAGE DISPENSER FOR BOTTLE TOPS

Filed Nov. 26, 1927

Fig. 1.

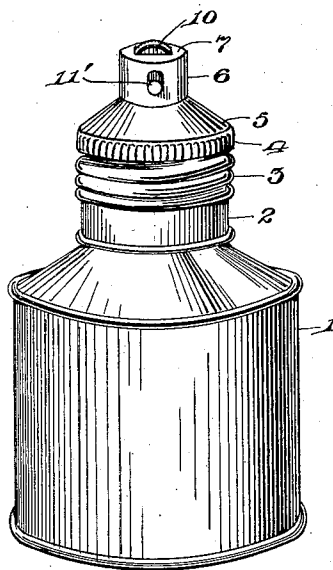


Fig. 2.

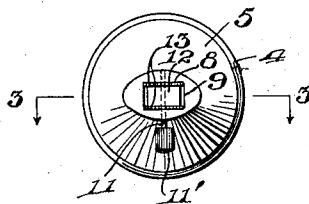


Fig. 3.

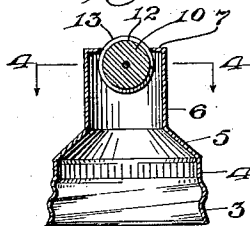
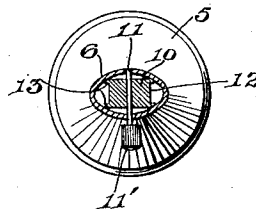


Fig. 4.



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UNITED STATES PATENT OFFICE

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MUCILAGE DISPENSER FOR BOTTLE TOPS

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The object of the invention is to provide improvements in such bottles as those in which mucilage is ordinarily sold, and particularly in the caps or tops which are provided with means for automatically dispensing the mucilage contents of a bottle in a definite manner, without the necessity of removing the said top at any time.

Another object is to provide a dispenser which spreads a cord or ribbon of mucilage or similar semifluid material in a definite predetermined shape and width, and which is equally operative when actuated in either direction, the shape of the dispenser preferably indicating from above, when the bottle is in inverted position, the plane of rotation of the application roller.

A further object is to provide a bottle top, comprising an opening therethrough, a tubular neck communicating therewith, and a roller rotatably mounted in and protruding from said neck, said neck being so shaped laterally of its cross section as to permit the rotation of the roller to propel the relatively sluggish mucilage towards the free end of the neck, and shaped longitudinally of said cross section so as to regulate and insure a free flow of mucilage from said neck against the periphery of the said roller in a cord-like stream.

Still another object is to provide an application roller having a transversely central, substantially cylindrical, peripheral portion, bounded laterally by radially projecting beadings, preferably knurled or otherwise roughened so as to engage the surface being mucilaged, to rotate the roller, and to definitely limit the width of the ribbon of mucilage being applied.

And a still further object is to provide the combination of a mucilage bottle, and a removable top of the character described thus broadly, with a suitable means, manually actuable when the adhesive on drying after a previous application has stuck and held the roller fast, in order to loosen said roller to permit it to function in its normal manner.

Further details of construction and operation are brought out in the following description when read in conjunction with the accompanying drawings in which Fig. 1 is a perspective view of a mucilage bottle or similar container provided with a dispensing device of the character described; Fig. 2 is a top plan view of the dispensing top or cap of the bottle per se; Fig. 3 is a vertical section on the line 3—3 of Fig. 2; and Fig. 4 is a horizontal section of the device on the line 4—4 of Fig. 3.

Referring to the drawings, the bottle or other container is of any suitable size and shape and is provided with a neck 2 to which is removably secured by means of threads or the like at 3 a cap, having an outer knurled or otherwise roughened edge portion 4, preferably tapering upwardly in a somewhat conical section 5, which terminates in a hollow tubular extension 6, preferably elliptical in cross section as shown in Fig. 4.

The normally upper free end of said tube is partially closed by a transversely extending end wall 7, having a rectangular opening, comprising sides 8 and ends 9. A roller 9 is rotatably mounted within the upper portion of the tube 6 upon a shaft 11 and projects freely through the aperture 8—9, said shaft being extended in one direction and provided with a manually engageable knurled knob 11', whereby the roller 10 may be easily loosened without soiling one's fingers, after the adhesive from a previous use of the device may have become dried and hard.

The roller 10 itself preferably comprises a longitudinally centrally grooved portion 12, bounded by radially extending flanges 13, which are knurled or otherwise roughened upon their radially outer surfaces in order to better frictionally engage the surface to which the mucilage or other content of the bottle is to be applied.

Referring to Fig. 4, it will be noted that the cross section of the tube 6 provides a major and minor axis, the major axis being in the plane of rotation of the roller 10 and the minor axis being parallel with the shaft 11. When the bottle or other container is inverted and the roller is rotated in frictional engagement with a given surface, this particular shape of tube permits the relatively sluggish mucilage to flow upon the opposite sides of

the roller in the relatively shallow curved segments of the tube where the roller is able to churn and impel the mucilage toward the relatively deeper curved segments in line with the said major axis of the tube.

Consequently, as the mucilage cannot flow from the tube upon the opposite sides of the roller due to the sides 8 of the aperture abutting against and lightly wiping or scraping the roller, the mucilage is forced to flow towards the more concavely curved portions of the tube, whence it flows past the ends 9 of the exit aperture and is carried to the said given surface by the rotation of the roller and upon the surface of the groove 12 of the latter.

Referring to Fig. 2, it will be seen that the particular shape of roller limits the lateral extent of a ribbon of mucilage carried by and within the groove 12 and that the depth of the ribbon is defined not only by the shape and depth of said groove, but also by the shape of the ends 9 of the aperture. Therefore, if desired, the ends 9 of said aperture may be curved, in which case the surface of the groove in the roller may be concavely curved instead of planely cylindrical if desired. In either of these last two cases, a cord-like line of mucilage of greater thickness at its center than at its edges is laid upon the given surface being mucilaged.

Furthermore, it should be noted that when the container and dispensing device are in inverted position and the roller is partly or wholly hidden by the latter, the plane of rotation of the roller and therefore the directions in which the device should be oscillated or propelled in rectilinear paths upon a surface are indicated at all times by the major axis of the tube 6, which is plainly visible or which can be felt by placing the thumb and first finger of the operator's hand upon the opposite sides of the tube in line with the minor axis thereof.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:—

1. The combination of a container, with a closure, a tubular extension of said closure of substantially elliptical cross section having major and minor axes, and having an end wall provided with an aperture, and a roller rotatably mounted within said extension and projecting freely through said aperture, said end wall operating to wipe the lateral sides of the roller, the periphery of the roller comprising a central groove bounded laterally by radially extending roughened flanges adapted to frictionally engage an extraneous surface to insure rotation of said roller, shallow side portions of said extension along the minor axis permitting liquid to flow towards and into contact with the sides of said roller, which operates to churn the liquid into the deeper portions of said extension along the

major axis, which latter being unopposed by the end wall permit the flow of a cord- or ribbon-like stream of liquid to the oppositely positioned portions of said roller groove.

2. A mucilage dispenser, comprising an elliptical tube, having major and minor axes, and an end wall provided with an aperture, and a roller rotatably mounted within said tube and projecting freely through said aperture, said end wall operating to wipe the lateral sides of the roller, the periphery of the roller comprising a central groove bounded laterally by radially extending roughened flanges adapted to frictionally engage an extraneous surface to insure rotation of said roller, the relatively shallow side portions of said tube along the minor axis permitting mucilage to flow towards and into contact with the sides of said roller, which operates to churn and impel the mucilage into the deeper portions of said tube along the major axis, which latter portions being unopposed by the end wall permit the flow of a cord- or ribbon-like stream of liquid to angularly separated portions of the roller groove.

3. A mucilage dispenser, comprising an elliptical tube, having major and minor axes, and an end wall provided with an aperture, and a roller rotatably mounted within said tube and projecting freely through said aperture, said end wall operating to wipe the lateral sides of the roller, the periphery of the roller comprising a central groove bounded laterally by radially extending roughened flanges adapted to frictionally engage an extraneous surface to insure rotation of said roller, the relatively shallow side portions of said tube along the minor axis permitting mucilage to flow towards and into contact with the sides of said roller, which operates to churn and impel the mucilage into the deeper portions of said tube along the major axis, which latter portions being unopposed by the end wall permit the flow of a cord- or ribbon-like stream of liquid to angularly separated portions of the roller groove, said roller being carried by a shaft, and said shaft extending laterally in one direction and manually engageable to loosen said roller when held by dried mucilage after a previous use of the dispenser.

In testimony whereof I have affixed my signature.

MAURICE ALLAND.