Oct. 28, 1958 L. L. LERNER ET AL 2,857,919

DISPENSER

Filed Dec. 18, 1956

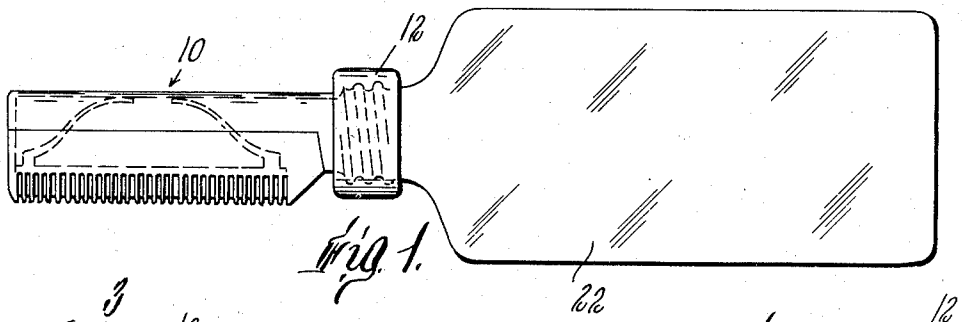


Fig. 1.

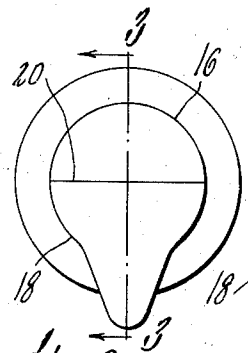


Fig. 2.

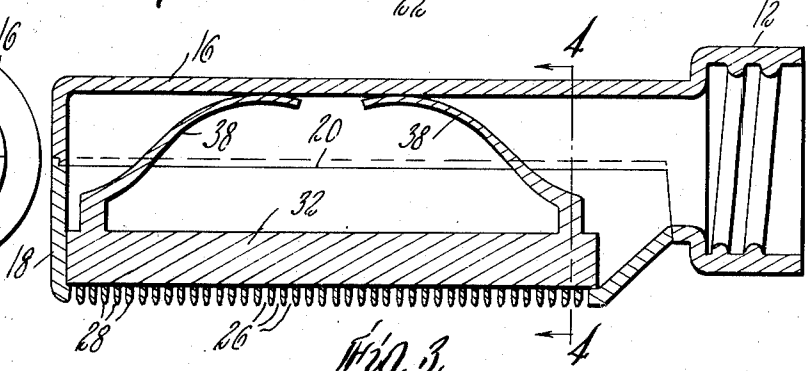


Fig. 3.

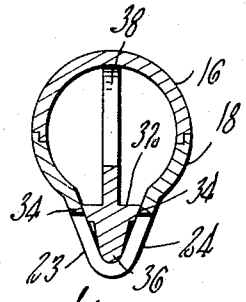


Fig. 4.

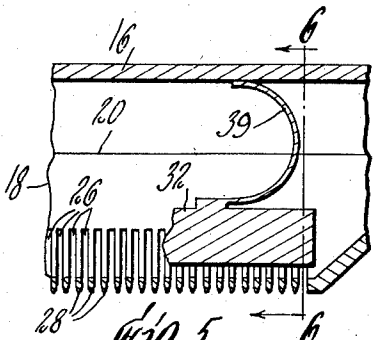


Fig. 5.

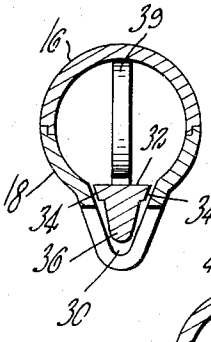


Fig. 6.

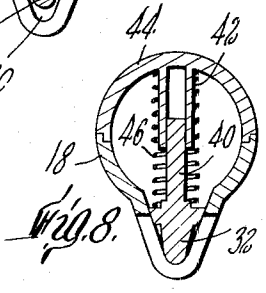


Fig. 8.

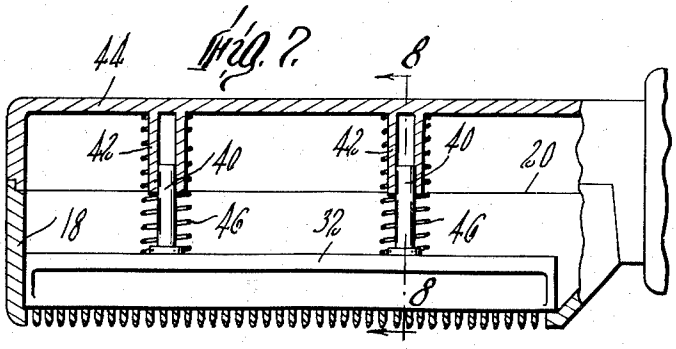


Fig. 7.

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2,857,919

DISPENSER

Louis L. Lerner and Albert Safianoff, Chicago, Ill., assignors to The Gillette Company, Boston, Mass., a corporation of Delaware

Application December 18, 1956, Serial No. 629,180

5 Claims. (Cl. 132—115)

This invention relates to an applicator for dispensing treating material onto the hair during use and pertains more specifically to an applicator arranged for mounting on a container of flowable treating material.

One object of the invention is to provide a dispenser of simplified and improved construction adapted to dispense flowable hair-treating material such as permanent waving lotion onto the hair.

Another object is to provide a dispenser adapted to distribute treating material substantially uniformly throughout a mass of hair.

Still another object is to provide a material-dispensing applicator which can readily be controlled during use to vary the quantity of material dispensed as well as its distribution throughout the hair tresses.

Other and further objects will be apparent from the drawing and from the description which follows.

In the drawing:

Fig. 1 is a view in side elevation showing one embodiment of the dispensing applicator of the present invention mounted on a container;

Fig. 2 is a view in end elevation of the applicator shown in Fig. 1;

Fig. 3 is a view in section taken along line 3—3 of Fig. 2;

Fig. 4 is a view in section taken along line 4—4 of Fig. 3;

Fig. 5 is a view in section, partly broken away, corresponding to the view shown in Fig. 3 and depicting another embodiment of the invention with the valve member in open position;

Fig. 6 is a view in section along line 6—6 of Fig. 5;

Fig. 7 is a view in longitudinal section, partly broken away, showing a second embodiment of the invention; and

Fig. 8 is a view in cross section along the line 8—8 of Fig. 7.

As shown in the drawings, the applicator of the present invention comprises a hollow elongated base member **10** provided with a screw-threaded cap member **12** adjacent one end which serves as an inlet and which is adapted for mounting the applicator upon a suitable container **22** such as a glass bottle or the like which serves as a reservoir or means for supplying the treating material such as permanent waving lotion to the interior of the applicator through screw-threaded inlet **12**.

Applicator **10** comprises a hollow elongated base member or chamber of generally cylindrical shape having an opening extending along a side thereof as shown in Figs. 3 and 4. The applicator in a preferred embodiment is molded of plastic material and is made in two halves **16, 18** joined together along a longitudinally extending parting line **20** by any suitable means as by cementing or welding. The upper half **16** as seen in Fig. 1 includes a screw-cap inlet **12** at one end which is adapted to be mounted on the threaded neck of a conventional container **22** such as a glass bottle. Any other conventional mounting may be used in place of a screw thread if desired. The lower half **18** of the applicator includes a pair

of walls **23, 24** which meet at an acute angle and which are provided with a plurality of spaced-apart, generally parallel slots **26, 26** extending across the line of juncture of the walls to form a row of spaced-apart hollow comb teeth **28, 28**.

As a result of this construction each hollow comb tooth **28** is provided with an aperture **30** along each of its lateral or side walls opposite adjacent teeth.

Disposed with the hollow interior of the applicator is a sealing member **32** extending the full length of the row of teeth **28, 28**. Sealing member **32** is provided with a pair of sealing faces **34, 34** on opposite sides which are arranged to seat in the angle between the walls **23, 24** so as to seal apertures **26, 26** from the interior of the hollow base member. Control bar **36** is integrally connected with sealing member **32** and forms with it a bar valve member of generally triangular cross-sectional configuration which extends into the interior of hollow teeth **28** and through the apertures at each side of opposing teeth so as to bridge the spaces between adjacent teeth, as shown in Fig. 3. Sealing member **32** and control bar **36** are preferably molded from plastic material, and in the embodiments shown in Figs. 1 to 6 inclusive there is also molded integral with sealing member **32** a pair of resilient springs **38, 38** as shown in Fig. 3 or **39, 39** as shown in Fig. 5 which extend from sealing member **32** into the interior of the hollow base member chamber and bear against the inner wall of the upper half **16**. The springs yieldingly urge sealing member **32** into sealing position, as shown in Figs. 3 and 4, but permit the sealing member to move to the open position when pressure is applied to control bar **36** through the spaces **26** between adjacent teeth **28**, sealing member **32** being shown in open position in Figs. 5 and 6 of the drawing.

In Figs. 7 and 8 there is shown a modified construction in which sealing member **32** is provided with a pair of guide rods **40, 40** which extend from the back of the sealing member into the interior of the applicator and are slidingly received in guides **42, 42** molded integrally with upper half **44** which is secured to lower half **18** along parting line **20** by cementing, welding or any other suitable means. A pair of coil springs **46, 46** are disposed around guide rods **40** and guides **42** so as to yieldingly urge sealing member **32** into sealing position, as best shown in Fig. 8.

In assembling the device, the sealing member and springs may be placed in position within the interior of one of the molded halves of the applicator; then the remaining half of the applicator is fitted in place and secured.

In use, the applicator is mounted on a container full of treating material by means of screw-threaded inlet fitting **12**. The springs **38, 39** or **46** maintain sealing member **32** in position to seal the hollow interior of the applicator from the apertures **26** and from the interior of hollow teeth **28**, thus effectively preventing loss of any treating material even if the container be inverted. When the applicator is applied to the hair in the manner of a comb the pressure of the individual hair fibers against control bar **36** in the spaces **26** between adjacent teeth urges sealing member **32** to open position, as shown in Figs. 5 and 6, permitting the flowable treating material within container **22** to pass outwardly through teeth **28** and apertures **26** onto the hair. The amount of treating material dispensed may readily be controlled by varying the pressure of the applicator against the hair tress. In addition, the pressure may readily be varied from one end of the applicator to the other, thus regulating the relative quantity of material dispensed along the length of the applicator. However, because sealing member **32** and control bar **36** are unitary elements extending the full length of the row of teeth **28**, pressure at one point

only on bar 36 does not result in dispensing material at that point only; instead, sealing member 32 is opened along a considerable extent of the length of the row of teeth 28, thus providing for more uniform distribution of treating material on the hair and avoiding excessive concentrations in localized zones.

Although specific embodiments of the invention have been described herein, it is not intended to limit the invention solely thereto, but to include all of the obvious variations and modifications within the spirit and scope of the appended claims.

We claim:

1. An applicator adapted to dispense treating material onto the hair during use comprising a hollow chamber having a pair of walls meeting at an acute angle with a plurality of spaced-apart generally parallel slots extending across the line of juncture of said walls to form relatively uniform parallel spaced openings along said line of juncture, a valve member within said chamber normally seated in the angle between said walls and sealing said slots, means for yieldingly urging said valve member to seated position whereby pressure of the hair against the valve member through said slots during use tends to open said valve member, and an inlet for introducing treating material into said chamber.

2. An applicator for dispensing treating material onto the hair during use comprising a base member having a hollow interior, a plurality of spaced-apart comb teeth secured to said base member, each said tooth having a hollow interior communicating with the interior of said base member, apertures extending along opposing sides of each pair of teeth, means disposed within said teeth and base member extending through said apertures across the space between opposing sides of said teeth for sealing said apertures, means for yieldingly urging said sealing means into sealing position, and an inlet for introducing a supply of treating material into the interior of said base member, said sealing means being arranged so that pressure of the hair thereagainst in the spaces between said teeth tends to open said apertures.

3. A material-dispensing applicator for use on the hair comprising an elongated hollow base member having an opening extending along a side thereof, a row of spaced-apart hollow comb teeth secured along the side of said base member and communicating with the interior thereof through said opening, each tooth having apertures along its lateral walls opposite adjacent teeth, a bar valve member disposed within said applicator extending along the row of teeth movable to and from a sealing position in which said bar extends through said apertures across the spaces between adjacent teeth to seal said apertures from the interior of said base member and an open position in which said bar is withdrawn toward the interior of said base member to permit flow of material through said apertures, spring means within said base member for yieldingly urging said bar valve member toward sealing position, and an inlet for introducing material to be dispensed into the interior of said base member.

4. An applicator for dispensing treating material onto the hair during use comprising a base member having a hollow interior, a plurality of spaced-apart comb teeth secured to said base member, each said tooth having a hollow interior communicating with the interior of said base member, apertures extending along opposing sides of each pair of teeth, means disposed within said base member extending along the junction between said base member and said teeth for sealing the interiors of said teeth from the interior of said base member, means for yieldingly urging said sealing means toward sealing position, control means disposed within said teeth connected to said sealing means and extending through at least one of said apertures into the space between opposing sides of said teeth, and an inlet for introducing treating material into the interior of said base member, said control means being adapted to be engaged by the hair extending through said space during use of the applicator to urge said sealing means to open position.

5. An applicator for dispensing treating material onto the hair during use comprising a base member having a hollow interior, a plurality of spaced-apart comb teeth secured to said base member, each said tooth having in each side wall opposite adjacent teeth an aperture communicating with the interior of said base member, a single sealing member for sealing all of said apertures from the interior of said base member, a control bar connected to said sealing member and extending through at least one said aperture into the space between adjacent teeth in position to be engaged by a hair tress to urge said sealing member to open position, means for yieldingly urging the sealing member to sealing position, and an inlet for introducing a supply of treating material into the interior of said base member.

No references cited.