

[54] FROSTING COMB

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132/11; 401/173, 174, 179, 185

[56] **References Cited**
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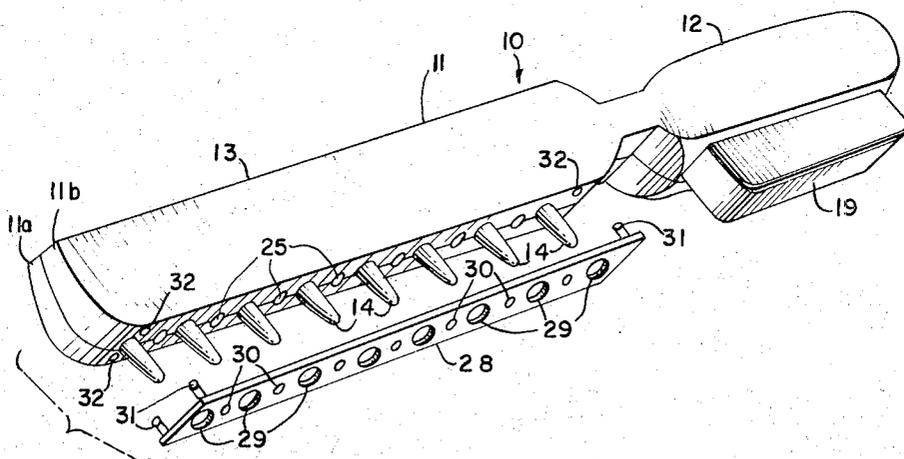
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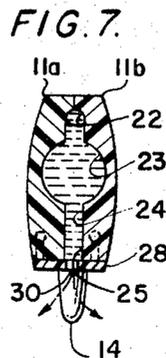
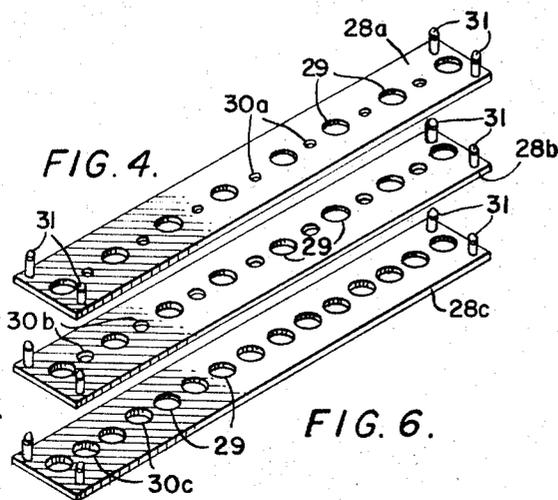
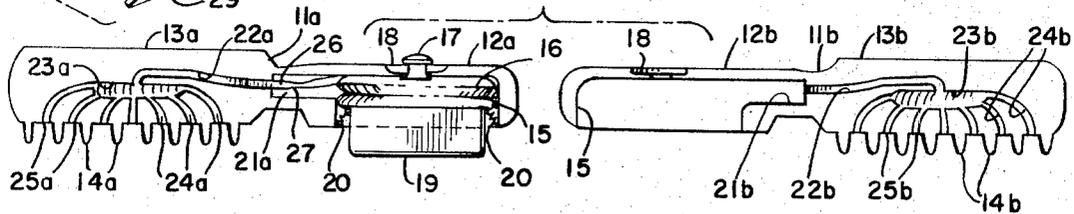
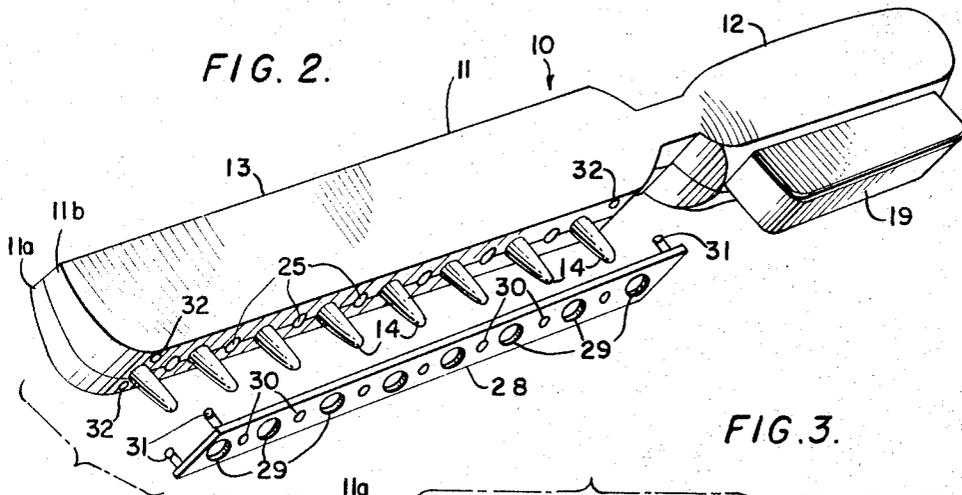
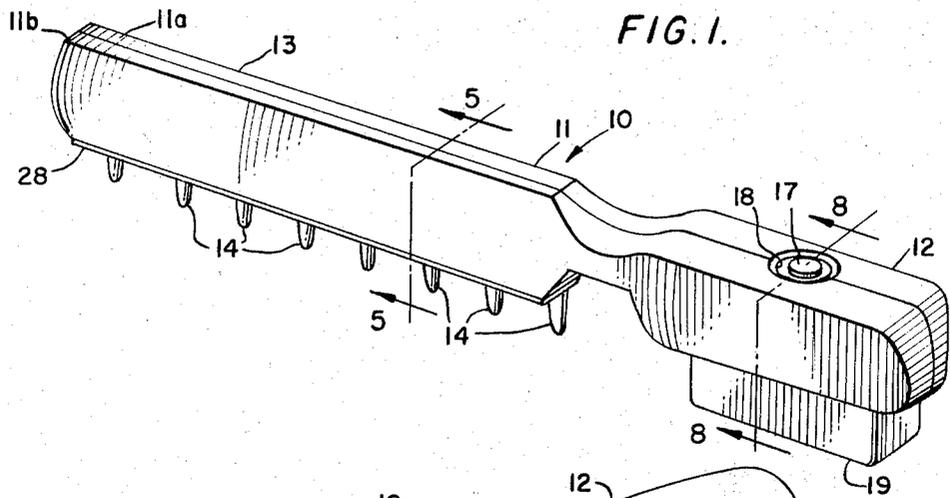
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[57] **ABSTRACT**

A frosting comb for accurately applying controlled amounts of a solution, such as bleach or the like, to hair, said comb comprising an elongate body with a handle at one end thereof and with teeth at the other end along one side thereof, a collapsible container for said solution in said handle, means on said handle for selectively collapsing said container to dispense the solution therefrom, normally closed passage means in said body extending from the container in the handle to a reservoir in the body adjacent the teeth, and the passage means extending from the reservoir to dispensing openings adjacent the base of the teeth to dispense the solution onto hair.

11 Claims, 8 Drawing Figures





1

FROSTING COMB

BACKGROUND OF THE INVENTION

This invention relates to a frosting comb for applying a solution, such as bleach or the like, to selected portions of hair to "frost" the hair.

Conventional combs for applying bleach or other solution to hair are known in the prior art but such conventional combs have several serious drawbacks. For example, most conventional frosting combs are relatively complicated and expensive in construction and are difficult to use with suitable accuracy. Some conventional frosting combs have means for controlling the amount of bleach or other solution dispensed onto the hair, but the control means is difficult to regulate with accuracy; and accordingly, the amount of solution dispensed onto the hair is not easily controlled so that it becomes a difficult and time consuming task to properly frost a person's hair with conventional frosting combs.

According to the present invention, a frosting comb for accurately applying controlled amounts of solution, such as a bleach or the like, to hair is provided.

In the present invention, a collapsible container for the solution is provided in the handle of the comb, and passage means extends from the container to a reservoir in the comb adjacent the teeth thereon. Means is provided in the handle for selectively collapsing the container to force the solution therefrom through the passageway to the reservoir, and said passageway is normally closed to prevent the solution from accidentally leaking from the comb until it is needed. The solution forced from the container collects in the reservoir, and passage means extend from the reservoir to dispensing openings adjacent the base of the teeth of the comb. The reservoir insures that the solution is distributed simultaneously through all of the openings at the same time and, thus, insures that proper control of the frosting of the hair is accomplished.

Further in accordance with the invention, various adapter plates are provided for attachment to the comb to provide different degrees of restriction of the flow of solution through the dispensing openings and onto the hair so that frosting of the hair can be very accurately controlled.

Moreover, the frosting comb according to the invention is exceptionally simple and economical in its construction and operation, and the task of frosting a person's hair is rendered easy and inexpensive with the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a top perspective view of a frosting comb in accordance with the invention.

FIG. 2 is a bottom perspective view of a frosting comb in accordance with the invention showing an adapter plate removed therefrom.

FIG. 3 is an exploded view in elevation of the frosting comb of FIG. 1 showing the two halves of the frosting comb separated from one another.

FIGS. 4, 5 and 6 are perspective views of different restrictor plates used with the comb of FIG. 1.

FIG. 7 is a view in section taken along line 7-7 of FIG. 1.

FIG. 8 is a view in section taken along line 8-8 in FIG. 1.

2

DETAILED DESCRIPTION OF THE INVENTION

In the drawings, wherein like reference numerals indicate like parts throughout the several views, a frosting comb in accordance with the invention is indicated generally at 10 and comprises an elongate body 11 having a handle 12 at one end thereof and an elongate comb portion 13 at the other end thereof with teeth 14 spaced along one side thereof.

As seen best in FIGS. 2 and 3, the frosting comb 10 comprises two substantially identical, longitudinal halves 11a and 11b suitably secured together along their confronting, abutting surfaces as with a suitable adhesive or the like or by means of a sonic weld or the like. Each half 11a and 11b includes one half of the comb portion 13a, 13b, the teeth 14a, 14b, and the handle 12a, 12b. Each handle portion 12a, 12b has an enlarged recess 15 therein for receiving and confining a collapsible container 16 therein when the comb halves are assembled together. A filler neck 17 having a suitable closure means thereon is on the container 16 and extends through a suitable opening 18 in the top of the handle portions 12a and 12b.

A suitable plunger means 19 is fitted within the recess 15 in engagement with the underside of container or reservoir 16 and is urged outwardly relative to the container by means of a suitable spring means 20 secured to the handle 12a and to the plunger means 19 so that during use, the plunger 19 is depressed inwardly of the handle to collapse the container 16 and force a solution contained therein from the container.

The halves 11a and 11b of the comb have a plurality of identical, mating, mirror image channels in the confronting faces thereof, which form closed passageways through the comb when the halves 11a and 11b are assembled together, and including reduced extensions 21a and 21b of the recess 15 in the respective halves. Mating halves 22a and 22b, of an elongate passageway 22 extend from the recess extension 21a, 21b into the comb portions 13a, 13b of the comb 10. The passageway halves 22a, 22b terminate at an enlarged reservoir 23, comprising mirror image or mating halves 23a, 23b in the respective halves of the comb 10 and a plurality of passageways 24, comprised of mating halves 24a, 24b, extend from the reservoir to dispensing openings 25, comprised of mating halves 25a, 25b in the respective comb halves between and adjacent the base of the teeth 14.

A normally closed, flexible plastic tube 26 extends from the container 16 into the passageway 22, and the tube 26 includes within its length a normally closed, collapsed or restricted portion or fluid pressure operated flow control mean 27 therein which prohibits flow through the tube 26 until such time as the plunger 19 is actuated to collapse the container 16 and force the solution therefrom through the tube 26, restriction 27, and passageway 22, into the reservoir 23 and thence through the passages 24 and dispensing openings 25 onto selected portions of the hair. When pressure is released from the container, the normally restricted portion 27 constricts or closes to thus cut off flow from the container to the dispensing openings at the base of the teeth of the comb.

A dispensing adapter plate 28 has a plurality of openings 29 therethrough in registry with the teeth 14 and through which the teeth 14 are received when the adapter plate is attached to the comb and also has a

plurality of flow restricting openings 30 therethrough between the openings 29 and adapter to be in registry with the dispensing openings 25 in the comb to regulate the amount of solution dispensed from the comb during use. The adapter plate is removably attached to the comb by means of a plurality of extensions 31, at the corners of the adapter plate; received in aligned openings or bores 32 in the comb and frictionally retained therein.

Several different adapter plates may be provided as illustrated in FIGS. 4, 5 and 6, with each plate having different size flow restricting openings therethrough for obtaining different flow rates, such as, for example, a plate 28a in FIG. 4 has small openings 30a therethrough for obtaining a small flow rate, plate 28b in FIG. 5 has medium size openings 30b therethrough for obtaining a medium flow rate, and plate 28c in FIG. 6 has large openings 30c therethrough for obtaining a large flow rate.

The frosting comb preferably comprises a suitable synthetic plastic material, although other suitable materials could be used in its manufacture. The container 16 and tube 26 also preferably comprise a flexible plastic material, although other suitable materials could be used, and the tube 26 preferably extends at its free end approximately one-half inch into the passageway 22, the other end being secured in or to the container.

The halves 11a and 11b of the comb, with the passageways and recess therein may be made in any suitable manner, but the unique construction thereof renders the comb particularly suitable for any one of a variety of molding techniques, such as injection molding or the like.

Thus, with the present invention, there is no likelihood of leakage of the solution from the container 16 because of the normally closed restriction 27 in tube 26, and the solution is, accordingly, only dispensed from the comb when the user desires and when the plunger 19 is actuated to collapse the container 16. Further, the enlarged reservoir 23, with which the passages 22 and 24 communicate, insures that the solution is dispensed substantially simultaneously to all of the dispensing openings 25, and the provision of several different adapter plates 28 with different sized flow restricting openings 30 therein enables the user to quickly and easily and accurately regulate the amount of solution desired to be dispensed onto the hair.

As this invention may be embodied in several forms without departing from the spirit or essential characteristics thereof, the present embodiment is therefore illustrative and not restrictive, since the scope of the invention is defined by the appended claims rather than by the description preceding them, and all changes that fall within the metes and bounds of the claims or that form their functional as well as conjointly cooperative equivalents, are therefore intended to be embraced by those claims.

What is claimed is:

1. A frosting comb for accurately applying controlled amounts of solution such as bleach or the like to hair, said comb comprising an elongate body with a handle at one end and with spaced apart teeth at the other end along one side thereof, a collapsible container for said solution in said handle, means on said handle to collapse the container to force the solution therefrom, a reservoir in said body adjacent the teeth, passage means in said body extending from said container to

the reservoir when the container is collapsed, passage means in the body extending from the reservoir to dispensing opening means in the body between the spaced apart teeth to dispense the solution onto hair during use of the comb, and an apertured adapter plate removably attached to said comb at said teeth, said teeth received through aligned tooth receiving openings in said plate, and said apertures in said plate in registry with the dispensing openings in the comb to regulate the rate of flow of solution through the dispensing openings and onto hair.

2. A frosting comb as in claim 1, wherein the handle has a hollowed out recess therein, said container being in said recess, and said means for collapsing the container comprises a plunger means with a portion thereof slidably received in the recess and in engagement with the container, and another portion thereof projecting out of said recess beyond said handle to be manually operated.

3. A frosting comb as in claim 2, wherein bias means is connected between the plunger means and the handle to urge the plunger means outwardly of the handle away from the container.

4. A frosting comb as in claim 1, wherein said passage means connecting the container with the reservoir includes a section of flexible tubing, and said flow control means comprises a flattened portion of said tubing normally closing the tubing to flow therethrough, said flattened portion being opened to permit flow therethrough when the container is manually collapsed.

5. A frosting comb as in claim 1, wherein there are a plurality of dispensing openings and a plurality of separate passage means extending from the reservoir to the dispensing openings.

6. A frosting comb as in claim 1, wherein a filler neck is on said container, said filler neck extending through an opening in said handle and accessible exteriorly of said handle to said solution to said container.

7. A frosting comb as in claim 1, wherein said elongate body comprises two substantially identical, longitudinal halves secured together to form said comb.

8. A frosting comb as in claim 7, wherein a portion of each passage means and of the reservoir is in each half, said portions being in mating alignment with one another to form said passage means and reservoir when the halves are secured together.

9. A frosting comb as in claim 8, wherein said frosting comb comprises a synthetic plastic material.

10. A frosting comb for accurately applying controlled amounts of solution such as bleach or the like to hair, said comb comprising an elongate body with a handle at one end and with spaced apart teeth at the other end along one side thereof, a collapsible container for said solution in said handle, means on said handle to collapse the container to force the solution therefrom, a reservoir in said body adjacent the teeth, passage means in said body extending from said container to said reservoir to convey fluid from the container to the reservoir when the container is collapsed, said passage means comprising a section of flexible tubing having a flattened portion normally closing the tubing to flow therethrough, said flattened portion being opened by fluid pressure to permit flow therethrough when the container is manually collapsed, and passage means in the body extending from the reservoir to dispensing opening means in the body between the spaced

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apart teeth to dispense the solution onto hair during use of the comb.

11. A frosting comb as in claim 10, wherein an apertured adapter plate is removably attached to said comb at said teeth, said teeth received through aligned tooth

receiving openings in said plate, and said apertures in said plate in registry with the dispensing openings in the comb to regulate the rate of flow of solution through the dispensing openings and onto hair.

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