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3,457,928

ADJUSTABLE COMB FOR APPLYING A LIQUID

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FIG. 1

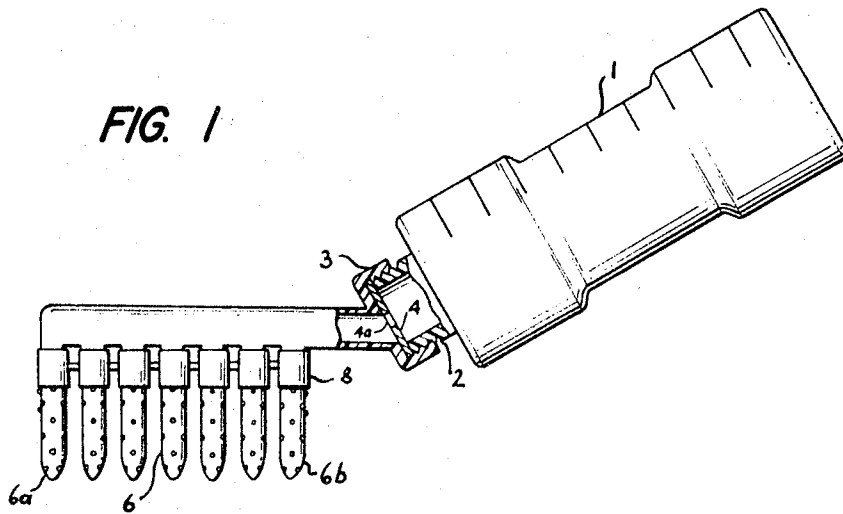


FIG. 2

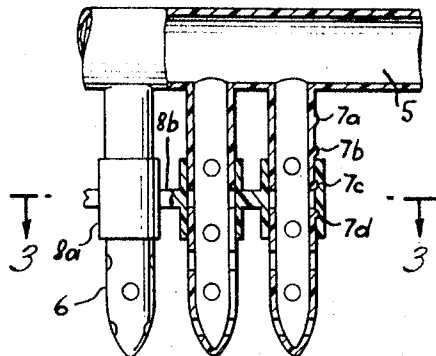


FIG. 3

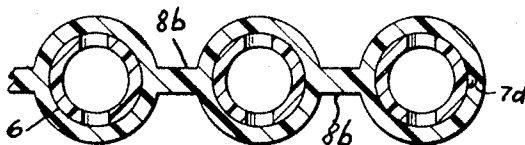
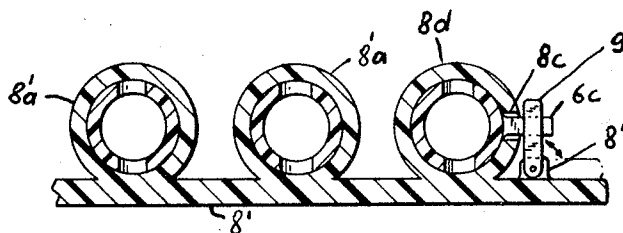


FIG. 4



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ADJUSTABLE COMB FOR APPLYING A LIQUID

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3 Claims

ABSTRACT OF THE DISCLOSURE

A hollow plastic comb applicator including a plurality of hollow teeth. Openings are provided near the free ends of the hollow teeth through which the liquid is applied to the hair. Means are slidably mounted on the hollow teeth for covering a predetermined number of holes on each hollow tooth and also for defining the maximum penetration depth of the comb teeth. The position of said means can be slidably adjusted thereby adjusting the penetration depth of said comb applicator.

BRIEF DESCRIPTION

This invention relates to a hollow comb applicator for dyeing or otherwise treating hair on a "do it yourself" basis.

Dyeing or treating hair in the home instead of by professional in beauty parlors has become increasingly popular. It is already known to provide a combined applicator and formula measuring hollow comb for applying a prepared formula to hair.

Once the hair is dyed, it requires frequent retouching particularly in the root area of the hair. With the known comb applicators, however, the hair is invariably excessively combed and handled because in order to reach the root area of the hair with the liquid dye it is necessary to re-dye at least a portion of the remainder of the hair. Excessive re-dyeing of the hair should, however, be avoided because it causes damage and breakage to the hair.

OBJECTS OF THE INVENTION

It is therefore a general object of the invention to provide a hollow comb applicator which acts principally on the root area of the hair.

It is another object of this invention to provide a hollow comb applicator which avoids re-dyeing the hair while applying liquid dye only to the root area of the hair.

It is still another more specific object of this invention to provide a hollow comb which includes a plurality of teeth extending therefrom; each tooth has a plurality of openings near its free end; a tubule is slidably mounted on each tooth and is adapted to cover a predetermined number of said openings thereby adjusting the penetration depth of the comb, the area through which the liquid may exit from the comb applicator and the amount of liquid that may exit from the comb applicator.

DESCRIPTION OF DRAWING

With the above and related objects in view, this invention consists in the details of construction and combination of parts, as will be more fully understood from the following description, when read in conjunction with the accompanying drawing, in which:

FIG. 1 is a side elevation partially in section of a comb applicator embodying the invention;

FIG. 2 is a side elevation partially in section showing in more detail the manner in which the tubules are mounted on the teeth of the comb in one embodiment of the invention;

FIG. 3 is a sectional view along lines 3-3 of FIG. 2; and FIG. 4 is a sectional view of a second embodiment

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of the invention illustrating in particular the tubules and comb teeth.

DETAILED DESCRIPTION

Referring now to the drawing there is illustrated in FIG. 1 a flexible and transparent applicator bulb 1 which can be made of any suitable elastomer material. The applicator bulb 1 has a threaded neck portion 2 which is adapted to threadedly engage a threaded nipple 3 in a liquid-tight manner. A flow-control disc 4 having a central opening 4a may be inserted into the nipple 3 for controlling the flow out of the bulb 1. A hollow shaft 5 extends from the nipple 3. A plurality of tapered hollow comb teeth 6, perpendicularly extend from the shaft 5. Each tooth 6 has a plurality of openings near its forward free end. The outer peripheries of the two end teeth 6a and 6b are provided with a plurality of resilient protrusions 7a-7d the function of which will be explained below.

A member is slidably mounted on the plurality of teeth 6. The sliding member 8 comprises a plurality of tubules 8a, the interior diameter of which is slightly larger than the maximum exterior diameter of the hollow comb teeth 6. Bars 8b firmly connect the tubules 8a to each other so that they are substantially axially spaced from each other at the same distances than the corresponding comb teeth. The entire device may be made of suitable plastic which lends itself to molding and heat welding, yet has sufficient stiffness to function properly.

Alternately the sliding member may be constructed as illustrated in FIG. 4 where a single bar 8' joins the tubules 8a which are integral therewith. The end teeth 6a and 6b have a plurality of projecting members 6c, 6c' 6c'' . . . which extend through a longitudinal slit 8c in the end tubules 8d. A lever 9 is pivotally mounted on a projection 8'' of the bar 8' and can be pivoted so that it projects normally from the bar 8' and engages one of the projecting members 6, 6c', 6c''

OPERATION

When using the comb applicator, a liquid dye is poured into the bulb 1 and the threaded neck portion 2 is screwed into the nipple 3. The position of the member 8 is then adjusted so as to determine the penetration depth of the comb into the hair and also the area through which the liquid dye can exit. This adjustment is effected by sliding the tubules 8a up or down the teeth 6, thereby increasing or decreasing the hole-area through which the liquid dye may pass. The tubules 8a are maintained in position by friction and the outermost tubules are also maintained in position by the protrusions 7a-7d over which the outermost tubules can be slid but which will snap back and thereby maintain the member 8 in position.

Thus the member 8 can be set at the height of regrowth of the hair along the teeth 6 and thereby when squeezing the bulb 1 liquid dye is only applied to the newly grown portion of the hair by pulling the comb applicator through the hair.

When a hair straightening solution is to be applied to the hair the member 8 is completely pulled off the comb teeth and liquid may flow through the entire hole area of the comb teeth thereby permitting a generous application of a hair straightening solution to the hair.

Having thus set forth and disclosed the nature of this invention, what is claimed is:

1. A comb applicator in combination with a plastic flexible container for receiving a liquid chemical to be applied to the hair, said container having an externally threaded neck; a hollow comb-like member having an internally threaded nipple and a plurality of hollow teeth extending therefrom, said nipple being threadedly mounted on said neck so as to place said container in communication with said comb-like member, each one of said hollow teeth being provided with a plurality of

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openings near its free end through which the liquid chemical in said container may flow, and a flow-limiting member having portions slidably mounted on each of said hollow-teeth; whereby when manually slidably adjusting the position of said flow-limiting member on said hollow teeth only a predetermined number of openings of said plurality of openings are exposed on each tooth of said plurality of teeth thereby adjusting the flow of said liquid chemical out of said comb-like member.

2. The comb applicator as defined in claim 1, wherein said flow-limiting member comprises a plurality of tubules corresponding in number to said plurality of hollow teeth, each tubule being slidably mounted over a hollow tooth, and means connecting all adjacent tubules to each other.

3. The comb applicator as set forth in claim 2, wherein said plurality of hollow teeth are aligned in a row, the two end teeth being provided with a plurality of resilient protrusions extending substantially radially therefrom,

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a corresponding tubule of said plurality of tubules being adapted to slide over said plurality of protrusions which snap back when exposed and thereby maintain said corresponding tubule in position.

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