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LIQUID DISPENSING HAIRBRUSH

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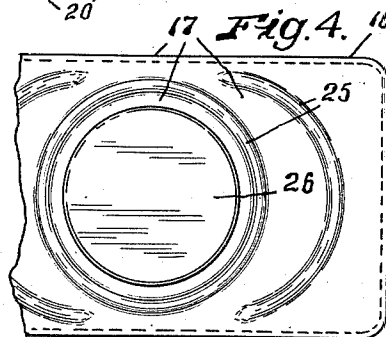
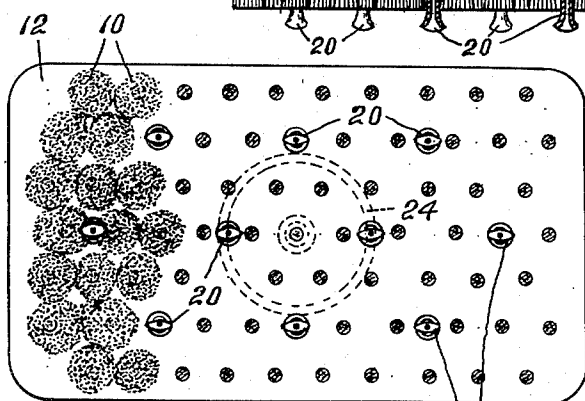
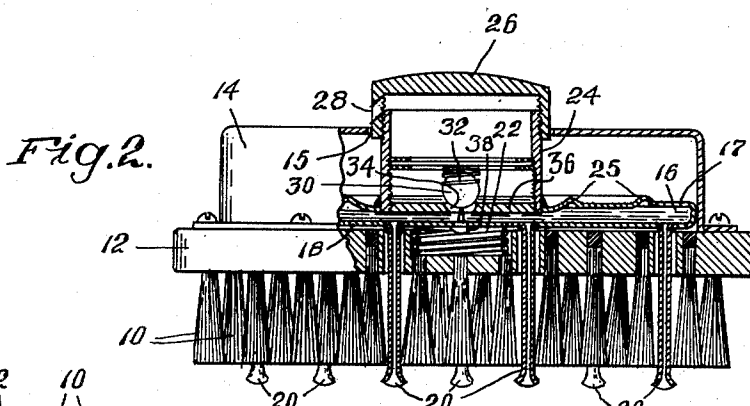
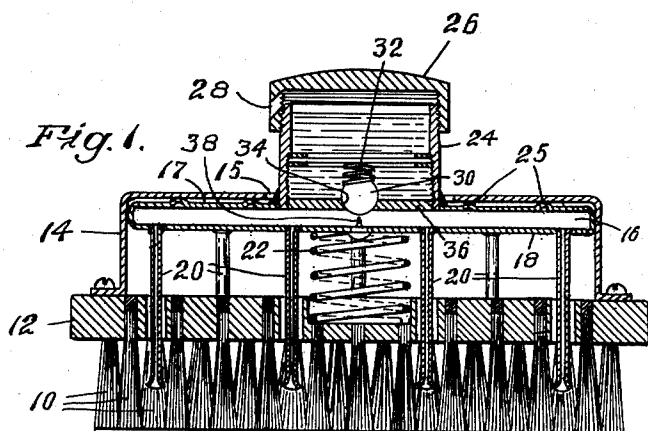


Fig. 3.

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LIQUID DISPENSING HAIRBRUSH

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3 Claims. (Cl. 15—131)

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This invention relates to improvements in hair brushes and more particularly to hair brushes having provision therein for holding and dispensing liquid preparations for conditioning the hair and scalp.

It is an object of the invention to provide a hair brush which may be used in the customary manner for brushing the hair and scalp and having provision for rendering the bristles of the brush inactive and for applying liquid directly to the scalp while the bristles continue generally inactive in spaced relation to the hair and scalp. I provide a series of generally stiff liquid-distributing stems among the bristles of the brush and the stems are carried on a liquid storage chamber which is movable to project the ends of the stems beyond the ends of the bristles so that tonic or the like scalp preparation in the storage chamber may be discharged through the stems directly upon the scalp while the bristles are held in spaced relation both to the scalp and the hair.

Another object is to provide a hair brush having a liquid storage chamber in its body and having generally stiff distributing tubes projecting from the chamber to locations among the bristles of the brush, with means for actuating the chamber to project the tube ends beyond the ends of the bristles and for then opening a supply reservoir for passage of liquid into said chamber whence it passes through the projected tubes onto the scalp of the user of the brush.

A further object is to provide a hair brush having projectible liquid distributors from a liquid storage chamber in the body of the brush, with a reservoir for supplying the chamber, there being a valve normally closing the outlet from the reservoir, and said valve being openable in response to a projecting actuation of the distributors.

It is, moreover, my purpose and object generally to improve the structure of hair brushes and more especially liquid-dispensing hair brushes.

In the accompanying drawing:

Figure 1 is a medial cross-sectional view of a hair brush embodying features of the invention with the parts in their relative positions for use of the brush in the conventional manner;

Figure 2 is a similar view with the parts in their relative positions for use in applying liquid directly to a scalp;

Figure 3 is a bottom plan view showing the relative arrangement of the distributing tubes or stems and the bristles; and

Figure 4 is a top plan view of the movable

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liquid-holding chamber showing its corrugated, flexible top wall.

Referring to the drawing, the brush bristles 10 may be anchored in any usual or suitable manner in a body member 12 which may be a block of any suitable rigid material such as wood or one of the many available plastic or composition materials. As represented, the block 12 has generally rectangular shape but, obviously, the shape may be varied as may be desired.

According to the invention, a sheet metal housing 14 is mounted on block 12 on its side opposite the side which carries the bristles 10. Within the housing is the shallow chamber 16 whose bottom wall 18 carries the series of generally rigid tubes or stems 20, each of which extends slidably through the block 12 with its end normally in the midst of the bristles 10, as seen in Fig. 1. The tubes 20 may be of aluminium, plastic or any other suitably stiff material, and each is securely fixed at its upper end to the bottom wall 18 of chamber 16 with its tubular passage always open into the interior of the chamber. A spring 22 normally maintains the chamber 16 in its uppermost position of Fig. 1, with the lower ends of the stems 20 drawn well into the midst of the bristles 10 so that the brush may be used in the conventional manner without the stems 20 interfering.

The shallow chamber 16 has a resiliently flexible top wall 17 which has rigidly fixed centrally thereof the upstanding tubular member 24 which constitutes a liquid-supply reservoir for the chamber 16. Member 24 extends slidably through an opening 15 in housing 14 and its upper or outer end is closed by the removable cap 26 which screws on the end of member 24 and which preferably is exteriorly knurled to facilitate turning of the cap. Also, a vent hole 28 is provided in the cap for a purpose which later will appear.

If desired, the top wall 17 of chamber 16 may be provided with corrugations 25 to increase its resilient flexibility.

Within the tubular member 24 is a valve 30 which conveniently may be a ball valve as represented. Valve 30 normally is seated by spring 32 closing opening 34 in the inner end wall 36 of member 24, so that liquid from the supply reservoir is prevented from entering the chamber 16. Hence, with the parts in their positions of Fig. 1, no liquid will be supplied to chamber 16 and none will be delivering from the stems 20, so that the brush may be used for a dry brushing of the hair with the stems idling in their retracted positions.

When it is desired to apply liquid from reser-

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voir 24 to the scalp, finger pressure on the capped end of member 24 forces it and chamber 16 inward thereby to project the ends of stems 20 beyond the ends of bristles 10, as seen in Fig. 2. Inward travel of chamber 16 is arrested when its bottom wall comes against the block member 12. Further pressure on the capped end of member 24 flexes the resilient top wall of chamber 16 causing the central regions of the top wall 17 to move toward the bottom wall 18 which is held stationary. A pin 38 is centrally disposed in the bottom wall 18, projecting toward the ball valve 30 and, when the top wall 17 is flexed inward, the ball is unseated by engagement with pin 38, thereby permitting liquid from reservoir 24 to enter chamber 16, whence it passes through stems 20 and delivers directly on the scalp as the brush is moved over the scalp with the stems projected into contact therewith.

The extra valve-opening pressure on member 24 may be discontinued after a short interval, but the pressure for holding the stems 20 projected is continued until the liquid which entered chamber 16 has been exhausted by distribution through the stems directly to the scalp. Then the member 24 is released and spring 22 elevates chamber 16 to retract stems 20.

It will be obvious that the stems, when projected, can apply liquid to the scalp with relatively little getting on the hair as compared with ordinary procedures of scalp treatments in which the major portion of liquid intended for the scalp is applied to the hair.

Various modifications of the structure as illustrated may be made without departing from my invention which consists primarily in the provision of projectible and retractible liquid-distributing means which, in projected positions, can apply liquid directly to the scalp and which, in retracted positions, are out of the way for use of the device as a conventional hair brush.

I claim as my invention:

1. A hair brush comprising a body having bristles anchored therein and projecting at one side of the body, a housing on said body at its other side, a shallow container within the housing and movable axially therein toward and from said body, a plurality of generally stiff tubular elements carried by the container and projecting slidably through said body, said tubular elements being open into said container, means yieldably maintaining said container in spaced relation to said body at one limit of its said axial movements thereby to position the outer ends of said tubular elements inward of the outer ends of said bristles, a receptacle for holding a supply of liquid having a normally closed passage opening into said container, said container having a member thereon arranged and adapted to be actuated for moving the container in direction to project the outer ends of the tubular elements outward beyond the outer ends of the bristles, an openable closure for said normally closed passage, and means for opening said closure in response to a said actuation of said container member in direction to project the outer ends of the tubular

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elements outward beyond the outer ends of said bristles.

2. A hair brush comprising a body having bristles anchored therein and projecting at one side of the body, a housing on said body at its other side, a shallow container within the housing and movable axially therein toward and from said body, a plurality of generally stiff tubular elements carried by the container and projecting slidably through said body, said tubular elements being open into said container, means yieldably maintaining said container in spaced relation to said body at one limit of its said axial movements thereby to position the outer ends of said tubular elements inward of the outer ends of said bristles, a reservoir mounted on said container and having a portion thereof projecting slidably through said housing for constituting a button for pressing the reservoir and container inward thereby to project the tubular elements outward beyond the outer ends of the bristles, a valve controlling flow of liquid from the reservoir to said chamber and normally closed against flow, and means for opening said valve in response to pressure on said button after the tubular elements have been projected.

3. In a hair brush having a body with bristles anchored therein and projecting at one side of the body, the combination therewith of a housing on the other side of the body, a shallow container within the housing and extending over a substantial area of said body, said container being mounted for axial movement toward and from the body and having means thereon projecting through the housing for effecting a said axial movement of the container, a series of distributing tubes carried by the container and projecting slidably through the body to the bristle side thereof, said tubes being open into the container at their inner ends, resilient means yieldably maintaining the container in spaced relation to the body with the outer ends of the tubes in restricted positions inward from the outer ends of the bristles, said projecting means of the container comprising a hollow member for holding a supply of liquid, a valve normally closed against flow of liquid from said hollow member to said container, and means on the container for opening the valve when the container is actuated to project the outer ends of the tubes outward beyond the outer ends of the bristles.

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