Dec. 23, 1958 F. McD. KALEY 2,865,383

APPARATUS FOR APPLYING LOTIONS, DYES, BLEACHES OR LIKE LIQUIDS TO THE HAIR ROOTS OR TO THE SCALP

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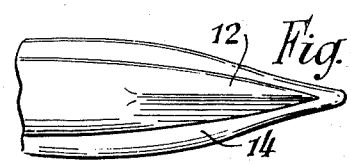


Fig. 6.

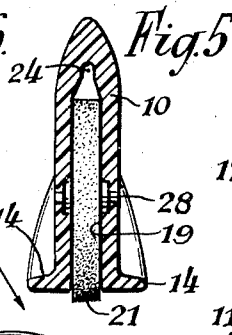


Fig. 5.

Fig. 1.

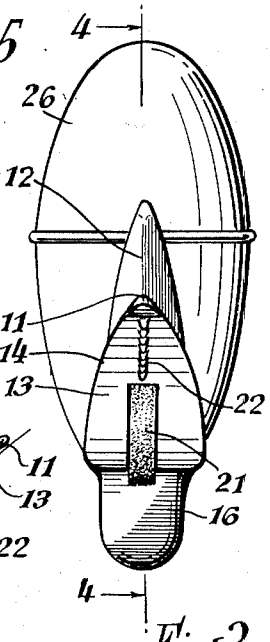


Fig. 2.

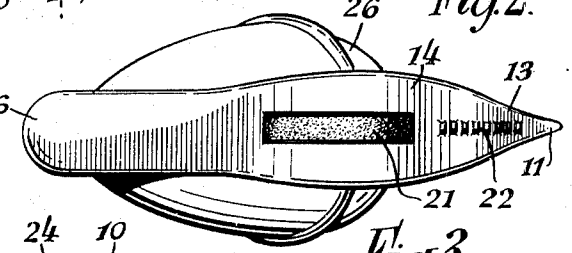


Fig. 3.

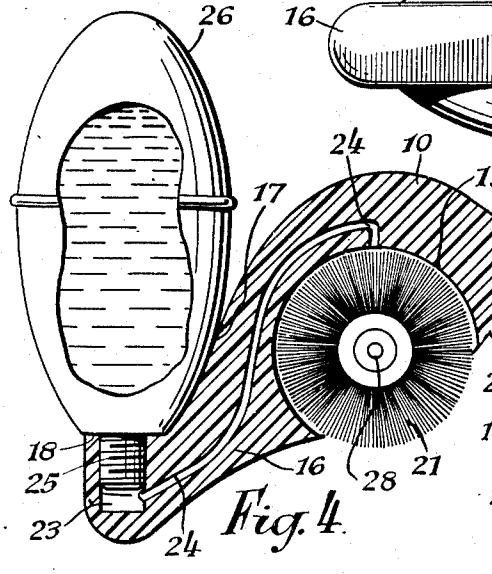


Fig. 4.

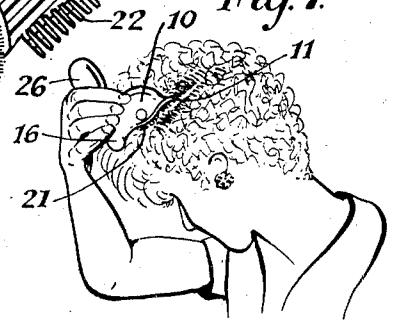


Fig. 7.

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Fig. 9

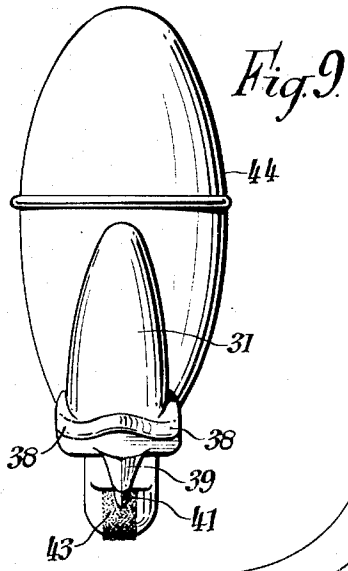
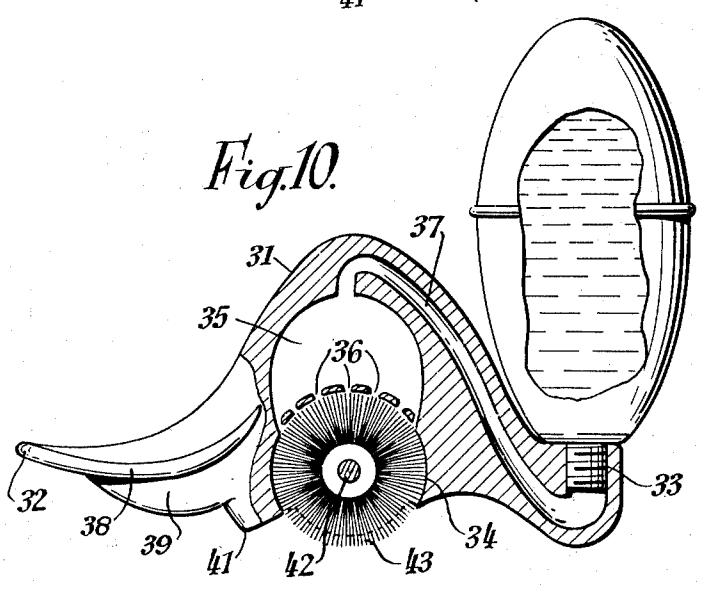


Fig. 8

Fig. 10



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APPARATUS FOR APPLYING LOTIONS, DYES, BLEACHES OR LIKE LIQUIDS TO THE HAIR ROOTS OR TO THE SCALP

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Application November 18, 1957, Serial No. 697,143

9 Claims. (Cl. 132—45)

It is frequently necessary in hairdressing, particularly in ladies' hairdressing, to treat the roots of the hair or the scalp with a flowable substance such as a cream or liquid, the flowable substance being, for example a lotion, dye, bleach, or conditioner. The usual method of carrying out such treatment is to part the hair with a comb, and apply the liquid with a brush into the parting, this operation being repeated a considerable number of times to cover the whole of the head. Normally the treatment takes a considerable time. In the particular instance of hair bleaching, it is usual after the hair has once been bleached that the hair as it grows requires to be bleached at the roots only to the extent that it matches the rest of the hair. If a considerable time is taken in applying the bleaching solution to the hair roots the positions where the bleaching liquid is first applied will be bleached to a greater extent than the positions where the liquid is last applied when the whole head is eventually washed to remove the bleaching solution or stop its action. It will be seen, therefore, that it is at present extremely difficult to bleach the hair growing at the roots to the same shade as the remainder of the previously bleached hair all over the head.

The main object of the present invention is to provide an appliance or apparatus which will enable the hair roots to the exclusion of the remainder of the hair over the whole of the head or the scalp to be treated in a very much shorter time than is possible with the conventional appliances mentioned above with the result that where the liquid, such as a bleaching liquid, must be applied for a specific period only, and to the roots of the hair, it is possible to completely treat the head so as to obtain substantially the same time for action on all the roots before taking action to neutralise the effect of the liquid.

According to the present invention, apparatus for applying flowable substances to the scalp comprises a body, a hair parting member on said body, a distributor for said flowable substance projecting from said body in alignment with said hair parting member, a deformable reservoir for the flowable substance and a passage in said body leading from said reservoir to said distributor, said passage having its end which is connected to the reservoir at a substantially lower level than its end which is connected to the distributor.

Further, according to the invention, apparatus for applying flowable substances to the scalp comprises a body, a hair parting member on said body, means for spreading outwardly on each side of the parting member the hairs parted by the said member, means for attaching a reservoir for the flowable substance to the said body, and a channel for conveying the flowable substance from a reservoir attached to said body to a delivery position within the length of the hair spreading means so that

the flowable substance is applied to the scalp in the parting formed by the parting member.

A rotary distributor such as a rotary brush is preferably mounted in the body, the flowable substance being conveyed to the rotary brush and applied thereby to the scalp.

The invention is hereinafter described with reference to the accompanying drawings, in which:

Figure 1 is a side elevation of one form of apparatus according to the invention;

Figure 2 is a front elevation of the apparatus shown in Figure 1;

Figure 3 is an underneath plan view looking in the direction of the arrow A in Figure 1;

Figure 4 is a longitudinal section on the line 4—4 of Figure 2;

Figure 5 is a transverse section on the line 5—5 of Figure 1;

Figure 6 is a plan view looking in the direction of the arrow B in Figure 1;

Figure 7 is a view showing the manner of holding and utilizing the apparatus;

Figure 8 is a side elevation, similar to Figure 1, of a modified form of apparatus according to the invention;

Figure 9 is a front elevation of the apparatus shown in Figure 8; and

Figure 10 is a longitudinal section through the apparatus shown in Figure 8.

Referring to Figures 1 to 6 of the drawings, the apparatus comprises a body **10**, conveniently formed by moulding in two halves which are secured together in the central longitudinal plane of the body. The body is generally segment-shaped in side elevation, and of small width compared with its length and height. At its forward end the body is brought to a rounded point **11**, the point **11** constituting a hair-parting member, and, from the region of the point, the upper edge sweeps upwardly in a convex curve **12**. The lower edge of the body adjacent the hair-parting member has a concave curvature at **13**, a pair of lateral flanges or beads **14**, **14** (Figures 1 and 6) being formed on the body to increase the width of this lower edge portion. The concavely-curved portion **13** of the lower edge merges into a convexly-curved portion **15** from the rear end of which extends a tail portion **16** the upper edge of which is formed by a concave-curved portion **17** and a flat surface **18**.

A part-circular slot **19** extending inwardly from the lower edge of the body is concentric with the portion **15** of the lower edge, and contains a flat circular brush **21** mounted rotatably on a spindle **28** extending across the slot. The edge of the brush **21** extends beyond the lower edge portion **15** of the body. The flanges or beads **14**, **14** extend rearwardly at least to the rear end of the slot **19**.

A row of short, stiff teeth **22** protrude from the edge portion **13** along its centre line.

A screw-threaded socket **23** is formed in the tail portion **16** of the body, opening upwardly in the flat surface **18**, and a channel **24** in the body connects the lower end of the socket **23** to the upper portion of the slot **19**, as shown in Figures 1 and 4. The screw-threaded socket **23** is adapted to receive a screw-threaded spigot **25** formed on one end of a container **26**, the container being of elongated bulbous shape as shown and its lower portion, when it is mounted on the body, following closely the curvature of the concave edge **17** of the tail portion. The container

26 is resiliently deformable, and is conveniently formed of thermoplastic material such as polythene. The container is preferably transparent.

It will be apparent that, by squeezing the container 26, the contents is expelled therefrom and fed to the brush 21.

The apparatus is used in the following manner: The body 10 is held between the tips of the thumb and fingers, as shown in Figure 7, so that the container 26 lies between the lower parts of the said thumb and fingers and can be compressed and released without affecting the holder's grip on the body.

The apparatus is passed in straight lines over the scalp, the hair-parting member 11 parting the hair along the line of movement and the flanges or beads 14, 14 spreading the hair outwardly on both sides of the parting. The convexly curved edge 12 assists in separating the hair on the two sides of the parting.

As the apparatus passes through the hair, the container 26 is squeezed to expel the flowable substance therefrom and transfer it to the brush, and, the brush being rotated by contact with the scalp, the flowable substance is applied to the hair roots in the parting. The quantity of flowable substance applied to the hair roots can be controlled by the user who can squeeze the container to any desired extent thus varying the quantity of flowable substance fed to the brush. The flowable substance does not flow freely on to the brush, owing to the fact that it has to flow upwardly through the narrow passage or channel 24, so that the flow is readily controllable. Only a short length of the circumference of the brush 21 is exposed, the remainder being wholly enclosed within the slot so that no part of the hair except the roots on either side of the parting can be touched thereby. Thus there is no risk of unintentional application of treating substance to the hair other than at the roots. The flanges or beads 14, 14 prevent the flowable substance from spreading outwardly beyond the desired narrow path along the parting.

The teeth 22 engage the scalp and are felt by the user, thus enabling her to guide the apparatus in straight lines and treat the whole scalp without any great degree of overlapping. When the apparatus is in the position for use the outlet from the container is at the lower end of the latter. The container is preferably of such a size as to enable the whole head to be treated with the contents thereof.

The apparatus shown in Figures 8 to 10, comprises a body 31 which, like the body of the apparatus shown in Figures 1 to 6, is of small width compared with its length and height, the body having its greatest height at its center and tapering towards its ends. A rounded point 32 at the forward end of the body constitutes a hair-parting member, and at the rear end there is provided an upwardly-opening screw-threaded socket 33. In the lower edge of the body, about midway between its ends, is formed a flat-sides slot or recess 34, of part-circular shape as viewed from the side of the apparatus, the lower edge of the body, at the mouth of the slot, being concentric with, but of smaller radius than, the curved wall of the slot. Directly above the slot 34 there is formed in the body a cavity 35 which communicates with the said slot through a plurality of apertures 36 spaced along the central part of the curved wall of the slot. A passage 37 in the body leads upwardly from the bottom of the socket 33 to the top of the cavity 35.

A pair of lateral ribs 38, 38 extend from the point 32 in a rearward direction, the ribs increasing in depth towards the center of the body, and curving upwardly in a rearward direction. Below the upwardly-curved portions of the ribs 38, between the point 32 and the slot 34, there are provided a pin 39 and a tooth 41.

In the slot 34 there is mounted, on a spindle 42, a circular brush 43 which is free to rotate in the said slot.

The screw-threaded socket 33 is adapted to receive the screw-threaded neck of a container 44, of elongated bulbous shape as shown, the container 44 being resiliently deformable.

Both the body 31 and the container 44 are preferably formed of thermoplastic material by moulding. The material is conveniently transparent.

The apparatus shown in Figures 8 to 10 is used in substantially the same manner as that shown in Figures 1 to 6, the body being held between the thumb and the tips of the fingers in such a way that the container 44 can be squeezed whilst the body is so held. The cavity 35 is filled with the liquid by squeezing the container 44, and the brush 43 receives the substance from the cavity 35, the said liquid flowing by gravity on to the brush. Thus a regular flow is achieved without continuous manipulation of the container 44, and the operation is less fatiguing. Temporary increase of flow can be achieved by squeezing the container 44 sufficiently to fill the cavity 35 and produce a slight increase of pressure therein.

In both of the examples of the invention described and illustrated, the distributor for the flowable substance has been described and shown as a rotary brush. Whilst such a brush is believed to be the most satisfactory form of distributor, the invention does not exclude the use of other rotary or fixed distributors such as discs or pads or porous material.

This application is a continuation-in-part of my application Serial No. 603,125, filed August 9, 1956, now abandoned.

I claim:

1. Apparatus for applying flowable substances to the scalp comprising a body, a hair parting member on said body, means for spreading outwardly on each side of the parting member the hairs parted by said member, means for attaching a reservoir for the flowable substance to said body, a recess in said body within the length of the hair spreading means, a rotary brush mounted in said recess, and a channel for conveying the flowable substance from the reservoir attached to said body to said recess so that the flowable substance is applied by the rotary brush to the scalp in the parting formed by the parting member.

2. Apparatus according to claim 1, wherein said body has a cavity therein, said brush being so mounted in said recess that its periphery projects from said recess into said cavity.

3. Apparatus according to claim 2, wherein a longitudinal row of teeth is provided between the hair parting member and the brush, the said row being in line with the parting member and the center of the thickness of the brush.

4. Apparatus for applying flowable substances to the scalp comprising a generally segment-shaped body, a hair parting member defined by one end of the said body, attachment means for a reservoir at the other end of said body, a recess in the inner edge of said body between said hair parting member and said attachment means, a rotary distributor for the flowable substance mounted in said recess, and a passage in said body leading from the attachment means to the top of the recess, the attachment means being so arranged that a reservoir attached thereto extends upwardly from said means and is symmetrical about the central longitudinal plane of the body.

5. Apparatus according to claim 4, wherein a pair of lateral flanges are provided along the inner edge of the body from the end forming the hair parting member to spread outwardly the hairs parted by the said member.

6. Apparatus for applying flowable substances to the scalp comprising a body, a hair parting member on said body, a distributor for the flowable substance projecting from said body in alignment with the hair parting member, a cavity in said body, means for mounting a deformable container on said body, passage means leading from said container mounting means to said cavity and further passage means leading from said cavity to said distributor, whereby a flowable substance contained in said container

is fed to said cavity by squeezing the container and flows from said cavity on to said distributor.

7. Apparatus for applying flowable substances to the scalp comprising a body, a hair parting member on said body, a recess in said body, a rotary distributor for the flowable substance mounted in said recess and projecting therefrom at a position in line with the hair parting member, a cavity in said body above said recess and communicating with said recess, a socket in said body to receive the neck of a deformable container, and passage means leading upwardly from said socket to said cavity.

8. Apparatus according to claim 7, wherein the rotary distributor is a circular brush.

9. Apparatus according to claim 7, wherein the cavity communicates with the recess through a plurality of openings.

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