Sept. 2, 1952 L. O. KITTLE ET AL 2,608,976

HAIR DYEING APPARATUS

Filed March 4, 1948

Fig. 1

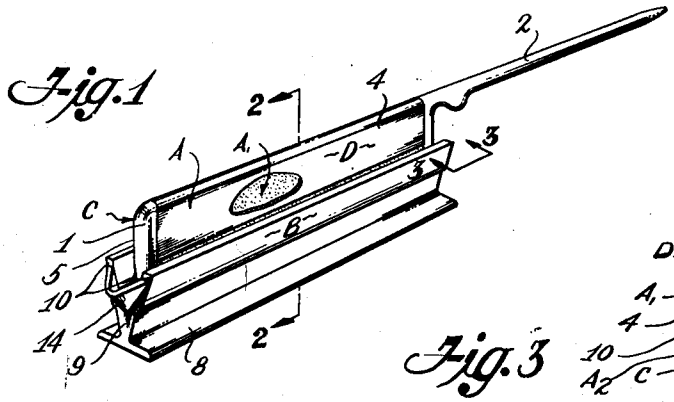


Fig. 2

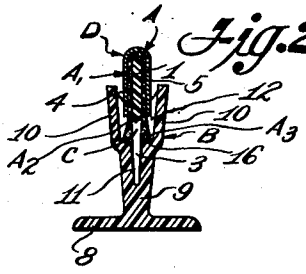


Fig. 3

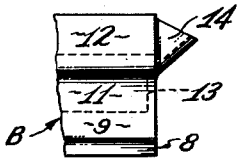


Fig. 4

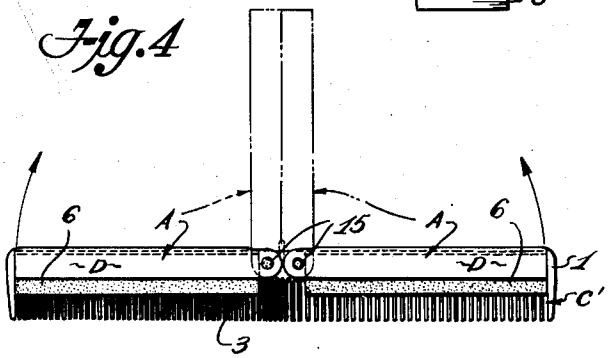


Fig. 5

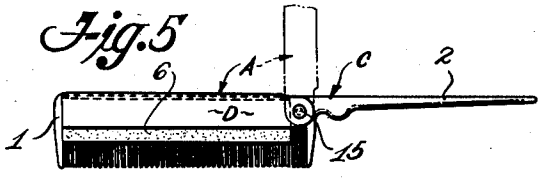
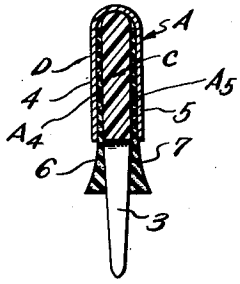


Fig. 6



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HAIR DYEING APPARATUS

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11 Claims. (Cl. 132—12)

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This invention relates to and has for an object the provision of an improved hair dyeing apparatus which in its broadest aspect includes the provision of a conventional or special type of comb and an absorbent pad, or pads, adapted to be saturated with a suitable dye or other liquids and either permanently or detachably supported in position for use as an applicator so that as the comb is moved through the mass of hair of a user the dye carried by the applicator will be readily transferred to the hair.

Another and important feature of this invention is a special type of container adapted to hold a small quantity of dye and so formed that it will serve as a support while the applicator is absorbing the dye, and also when the applicator is temporarily not in use in a hair dyeing operation, the container being of such cross-sectional form as to provide a chamber for holding a quantity of dye and having a narrow bottom portion for receiving the teeth of the comb and a wider upper portion for receiving the top of the comb and applicator.

Preferably, the ends of the dye container are formed with spout-like lips for pouring off the surplus dye at the end of a hair dyeing operation, or at times for pouring residual liquid onto the applicator pads. We are aware of other hair dyeing devices within the broadest concept of this invention whereby an absorbent applicator pad is supported internally of the teeth of a special type of comb or the container is embodied in the comb and dye is fed downwardly to the applicator as the applicator is used. Our invention, however, contemplates the provision of an applicator consisting of one or more absorbent pads applicable to the exterior of a conventional rattail or other form of comb with the lower margins of the pads depending below the roots of the teeth for wiping contact with strands of hair as the applicator is moved through the mass of hair of a user.

Another object of our invention is to provide means for clamping or otherwise affixing a suitable absorbent applicator pad on one side of a comb, or a single pad folded over the top edge and having side portions extending downwardly over both sides, or separate pads on opposite sides of the comb body. In any case, the pads are adapted to be detachably or permanently attached to the comb as may be found desirable by reason of requirements of production and convenience of use.

Other objects and advantages of our hair dyeing apparatus will appear as the description progresses.

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There is shown in the accompanying drawing preferred and optional forms of apparatus embodying our invention, in which:

Fig. 1 is a perspective view of a preferred form including applicator means applied to a conventional rattail comb supported temporarily on a special type of combined dye container and support;

Fig. 2 is a transverse section of the same, on line 2—2 of Fig. 1;

Fig. 3 is a fragmentary elevation as seen on line 3—3 of Fig. 1;

Fig. 4 is a side view of a long conventional type of comb having two separately hinged applicators supported thereon for selective use;

Fig. 5 shows an applicator hingedly held on a rattail comb; and

Fig. 6 is an enlarged cross-sectional view of the comb of Fig. 1, as seen on line 2—2, but showing a slightly modified form of applicator borne by the comb.

It will be apparent that while we have illustrated only two forms of combs to which our applicator may be applied, the applicator is similarly applicable to various other types of combs for various purposes without material change.

As shown in Figs. 1 and 2, our apparatus includes a comb C with an applicator applied thereto and collectively indicated at A, and a combined support and container B on which the applicator bearing comb C is adapted at times to be erectly supported for the purposes to be hereinafter more fully explained. Comb C as shown, is of conventional rattail type with a body 1, handle 2, and teeth 3, but may be of any other desired form and size.

Applicator A may include a single absorbent pad A_1 folded over the upper edge of the comb body 1 on a median line between depending flat portions A_2 and A_3 to an extent that the lower margins of portions A_2 and A_3 will be disposed below the root line of the teeth 3, as shown in Fig. 2 and will overlie the row of teeth of the comb for substantially one-third of the overall length of said teeth along the opposite sides of said row at the root end portions only of said teeth. Substantially all of the portions of said pad overlying the comb teeth are exposed in their oppositely outwardly facing sides, and their sides that are next to the teeth are unsecured to the latter. Pad A is frictionally held on comb C by a tensioned clamp D of U-shaped cross section which, together with pad A is preferably seated in an elongated recess formed on the upper edge of the comb and of a length equal to

that of the applicator. Thus, the top of the applicator will be flush with the normal upper edge of the comb body.

The lower edges of the sides 4 and 5 of clamp D are substantially above the lower dye absorbing portions A_2 and A_3 or 6 and 7, respectively, of pad A, and approximately at the root line of the teeth. In lieu of the single pad of Fig. 2 we may use separate pads A_4 and A_5 on opposite sides of the comb body 1, as shown in Fig. 6.

It will be seen from Figs. 2, 6, the exposed portions of the absorbent pad or pads that overlie the comb teeth are so arranged relative to the comb structure that the angle between the longitudinal axis of the comb teeth and a line extending from the outer end portion of any comb tooth to the outermost lateral portion of the comb structure is less than the angle between said axis and a line extending from said outer end portion of any comb tooth to the lowest outermost lateral portion of said pad or pads. The words "comb structure," as used in the foregoing sentence are intended to include any means that may be employed to secure the pad or pads to the comb itself.

The combined support and container B has a flat base 8, a central vertical web 9, and spaced sides 10, 10 which provides an integral body of bifurcated cross section serving to define a narrow lower chamber 11 adapted to receive only the teeth 3 below the lower edges of pads A_4 and A_5 and a wider upper chamber 12 which communicates with the lower chamber in the horizontal plane of parallel ledges 16, 16 and is completely closed while the upper chamber is partly closed at opposite extremities by similar end walls 13, 13. Ends 13 are bent outwardly and are inclined upwardly to form spouts 14 of angular or arcuate cross section whereby residual dye in chambers 11 and 12 may be poured off into a permanent container upon completion of a hair dyeing operation or upon the pads at points 6 and 7 (Fig. 6) if desired.

As shown in Figs. 4 and 5, the applicators A may be hingedly affixed to the comb bodies, as at points 15, 15, in Fig. 4, and 15 in Fig. 5, so that one or both of the pair of applicators of Fig. 4 or the single applicator of Fig. 5 may be swung upwardly out of operative position for purposes of cleaning, replacement of the applicator pads or otherwise.

In the form of device shown in Fig. 4, the applicators may be selectively or together used, there being separate applicators for the coarsely and finely toothed sections of the comb.

It will be noted that, as shown in Fig. 2, when the applicator bearing comb is positioned in the unit B, the teeth 3 of the comb are submerged in the dye in chamber 11 while the extended saturable portions 6 and 7 of pad or pads (Fig. 6) rest upon ledges 16, 16 at the junction line between chambers 11 and 12 and are sufficiently immersed in the dye to absorb an optimum of liquid present in the upper chamber above the plane of ledges 16, 16. It may be noted that only the free portions 6 and 7 of the pads are saturable because the tension of clamp D holds the upper portions of the pads compressed to an extent which prevents their saturation. Hence, the quantity of liquid in container B is such that the quantity above the plane of ledges 16, 16 is adequate for properly saturating the free portions 6 and 7 of the pads.

Thus, when the comb and applicator are so supported for brief intervals during a dyeing operation the pads are kept dye-moistened and fresh and portions of a table, dresser, or other article upon which the applicator would be otherwise temporarily laid would not be stained.

In use, assuming that it is desired to dye the hair of a person, a quantum of dye is poured into the chambers of unit B to a level but slightly above the plane of ledges 16, the comb C with applicator A thereon is positioned in the container as shown in Fig. 2, and allowed to remain for a period of time sufficient to satisfactorily saturate portions 6 and 7 of the applicator pads with the dye. The comb and applicator unit is then removed and applied to the hair of a user by moving the comb through the hair as in an ordinary combing operation.

Inasmuch as the portions of absorbent material that overlie the sides of the teeth along their root ends are unsecured to the teeth and are preferably of sponge rubber of similar material, as indicated in the drawings, the portion that happens to be in engagement with the hair in a normal combing operation is free to swing away from the teeth for compression between the scalp and comb structure or back of the comb, to expel moisture carried thereby onto said hair at the scalp. The other ends of the teeth lead in the natural combing movement, and the fact that the portions of the pads that overlie the teeth terminate a sufficient distance from the outer ends of the teeth so as not to interfere with their function in combing of the hair, combined with the preferably relatively high flexibility of the pads that enables their swinging movement, results in the efficient combing of the hair and efficient application of the moisture carried by the pads with each combining movement. As noted in Figs. 2 and 6, the portions of the pads that are nearest the tips of the comb teeth project laterally outwardly of the teeth a substantially greater distance than the clamps that secure the pads to the comb, so no matter how flat the comb may be laid on the head, the pads will be compressible between the head and the comb.

Mustaches and other forms of facial hair growths may be similarly treated when and as often as required to insure a permanency of effect, and with little or no waste of dyes, a minimum of effort, and without soiling or staining the hands of a user in a hair dyeing operation.

Our hair dyeing apparatus of necessity includes the applicator and its combined support and dye container as interdependent elements because of the necessity for saturating the applicator pads with dye preparatory to application of the dye to the hair, and because of the difficulty of efficiently handling the small amounts of dye used in a hair dyeing operation without our dye container, thereby providing a simple, economical, convenient, and clean composite apparatus capable of use by unskilled persons.

The combined container and applicator support being internally chambered complementally to the external cross sectional form of the applicator unit, is adapted to steadily hold the applicator when not in use and while the pads are being saturated with hair oil, dye, or other liquid desirable for hair treatments.

The apparatus is especially adaptable for the application of oils, medicaments, bleaches, or dye to the hair, by professional or amateur hair dressers. The applicator unit may be hingedly, detachably, or permanently held on any desired form of comb for the herein mentioned or any

other desired purpose, regardless of size and characteristics of different combs.

The applicator pads may be adhesively affixed to the external comb surfaces, or embedded partially in the comb bodies as during a comb molding operation, or affixed to the inner surfaces of the clamp D so that a hinged or detachable clamp will carry the pads.

The application of our absorbent pads to combs of the form shown in Figs. 4 and 5 are particularly adaptable to the application of water and finger wave lotion or other liquids to the hair.

This invention, therefore, comprises a special type of applicator and a complementary type of liquid container which together conduce to a single result, to-wit: the application of a liquid to human hair uniformly as the comb bearing the applicator is drawn through a mass of hair, the applicator having characteristics which readily apply the liquid to the hair without impairing the usefulness of the comb, and the container serving to uniformly charge the applicator with an adequate quantum of liquid uniformly distributed throughout the extent of the applicator pads, and so supporting the applicator in charging position that overcharging of the pads is prevented.

We claim:

1. A hair dyeing apparatus comprising: a comb, absorbent pads overlying the outer surfaces of the comb and extended downwardly to a horizontal plane below the root line of the comb teeth, and a clamp overlying the comb and the pads and having tensioned sides bearing against the pads with the margins of said sides disposed in a plane above the adjacent margins of the pads and the edges of the pads extended from said clamp and disposed substantially above the teeth ends, said comb being recessed throughout its length for receiving said clamp so that the median surface of the clamp will be flush with the adjacent surface of the comb body.

2. An apparatus of the character described comprising: a comb; an applicator for liquids including pads on opposite sides of the comb extending downwardly over minor upper areas of the comb teeth; a retainer for holding said pads on the comb and serving to compress the upper areas of the pads against absorption of a liquid while the portions of the pads extended below the retainer are freely saturable; and a combined liquid container and comb support formed with narrowly spaced longitudinal ledges in a common horizontal plane between which only the exposed areas of the teeth are removably positioned with the lower edges of the saturable portions of the pads resting upon the ledges of the container whereby, when the level of liquid in the container is in a horizontal plane only slightly above the plane of said ledges, said saturable portions of the pads can absorb liquid above the level of the ledges.

3. An apparatus of the character described comprising: a comb, an absorbent applicator borne by the comb, and a liquid container in which said applicator and comb are removably supported preparatory to the application of liquid to human hair, said container being formed with a longitudinal channel for the teeth of the comb and a substantially wider chamber thereabove for the applicator whereby the comb bearing applicator will be supported in said chamber during the saturation of said absorbent applicator while the teeth of the comb are disposed in said channel.

4. An apparatus of the character described comprising: a comb, an absorbent applicator borne by the comb, and a liquid container in which said applicator and comb are removably supported, the combined liquid container and applicator support being internally chambered complementally to the external cross sectional form of the combined comb and applicator.

5. An apparatus of the character described comprised: a comb, absorbent pads overlying the outer surfaces of the comb and extended downwardly to a horizontal plane below the root line of the comb teeth, a clamp overlying the comb and the pads and having tensioned sides bearing against the pads with the margins of said sides disposed in a plane above the adjacent margins of the pads, the lower edges of the pads being disposed in a plane below the margins of the clamp, and a liquid container generally complemental in cross-sectional form to that of the comb and pads in which said comb is removably positioned vertically with the teeth directed downwardly thereby providing a support for said comb while liquid adapted to be held in said container is being absorbed by said pads.

6. A hair dyeing apparatus comprising a comb and absorbent pads affixed to opposite sides of the comb body and having their corresponding margins disposed below the root line of the comb teeth and a support in which said comb and pads are removably supported internally formed to provide longitudinal ledges for supporting the pads and to provide a chamber for liquid, which chamber has a narrow bottom portion in which the comb teeth below the pads are contained and a wider portion above said ledges for containing liquid for absorption by the pads.

7. An apparatus of the character described comprising in combination: an applicator including a comb having absorbent pads applied to opposite sides thereof, a holder on the comb holding said pads in position with saturable portions of the pad extended downwardly from the holder and partly overlying the teeth of the comb; and a liquid container in which said applicator is removably supported having a longitudinal channel into which the teeth of the comb below said pads extend and a substantially wider chamber thereabove with parallel spaced ledges in the plane of the junction of said channel and said chamber on which said saturable portions of said pads are supported when said teeth are in said channel.

8. An apparatus of the character described comprising: a comb, an absorbent applicator borne by the comb and projecting laterally from the root end portions of the row of teeth of said comb, and a liquid container in which said applicator and comb are removably supported, the combined liquid container and applicator support being internally chambered complementally to the external cross sectional form of the combined comb and applicator, end walls closing the ends of said container, one of which is formed with a pouring lip for pouring liquid from said container.

9. A hair dyeing apparatus comprising; a comb, a pad of compressible, moisture absorbent material overlying the root end portions of the teeth of said comb along a side of the row of said teeth, substantially all of the pad so overlying said portions being exposed on the outer side thereof relative to said teeth and free from obstruction by the comb structure to compression thereof between said portions and the scalp of a

person, the moisture absorbent characteristic of said pad being substantially restricted to the part thereof so overlying said portions whereby substantially all of the liquid adapted to be absorbed by said pad may be expressed therefrom by said compression.

10. A liquid container and support for a combined comb and liquid applicator of the character described in which the applicator comprises a pad alongside and projecting from the root end portions of the teeth of the comb, said container and support comprising; a horizontally elongated, upwardly opening channel member substantially complementally formed in cross-sectional contour to the exposed outer portions of the teeth of such comb and the exposed outer sides of such pad providing a relatively narrow channel portion for the ends of said teeth opposite said root end portions and a substantially wider channel portion at the level of such pad, a ledge longitudinally of the channel on which such pad is adapted to be seated when said teeth are in said relatively narrow channel, and end walls closing the ends of said channel, and a base for supporting said channel member with its open side directed upwardly.

11. A hair dyeing apparatus comprising; a comb having a back and a row of teeth projecting therefrom, a pad of moisture absorbent, flexible, resilient sponge-like material extending longitudinally of said row along one side thereof,

said pad having an expanded, compressible portion overlying the root end portions of said teeth along one side of said row for a substantial distance from said back toward the tips of said teeth, substantially all of the expanded compressible part of said strip being disposed wholly within the laterally projected confines of said comb with its entire outer side relative to said comb being exposed and free from obstruction by the comb structure to compression thereof between said comb and the scalp of a person during a combing operation of said teeth.

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