July 18, 1939. E. J. HEWITT 2,166,295

TONIC AND OIL APPLICATOR

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Fig. 1.

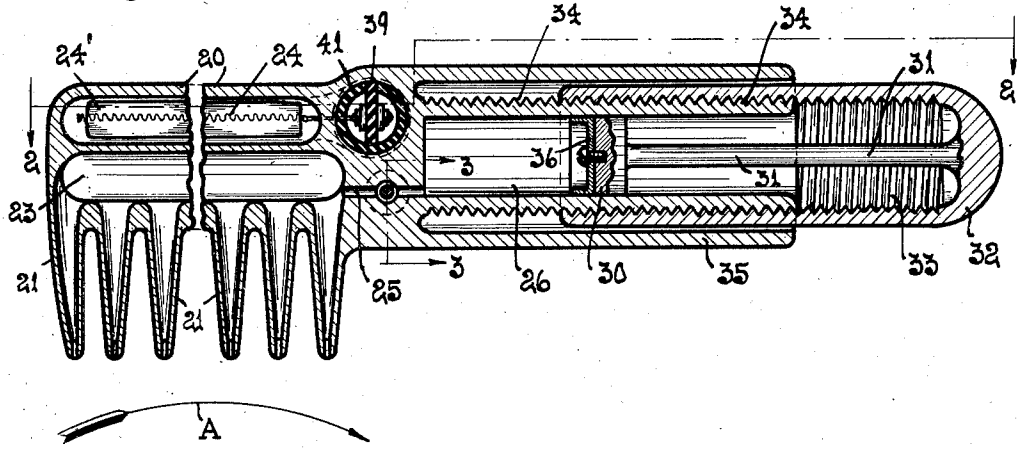


Fig. 2.

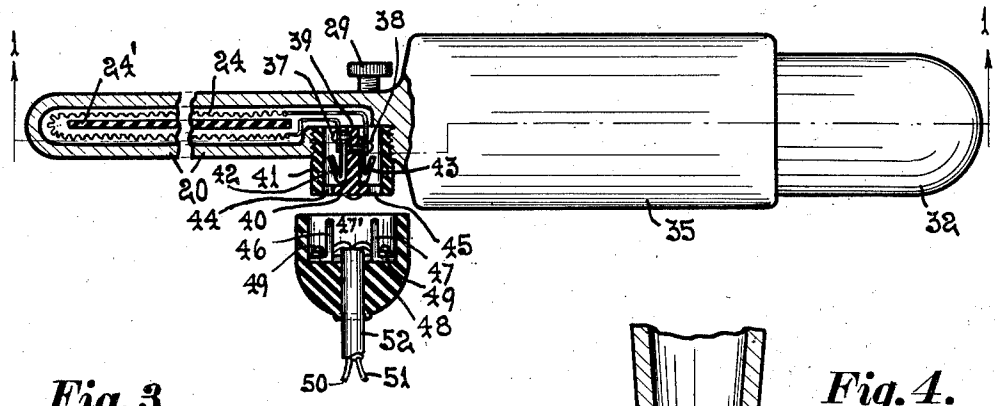


Fig. 3.

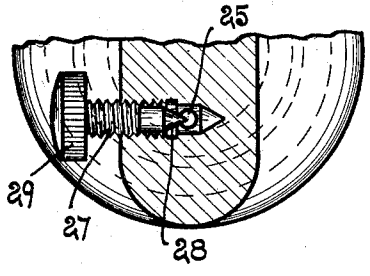
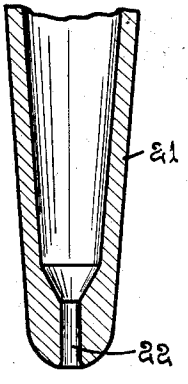


Fig. 4.



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Fig. 5.

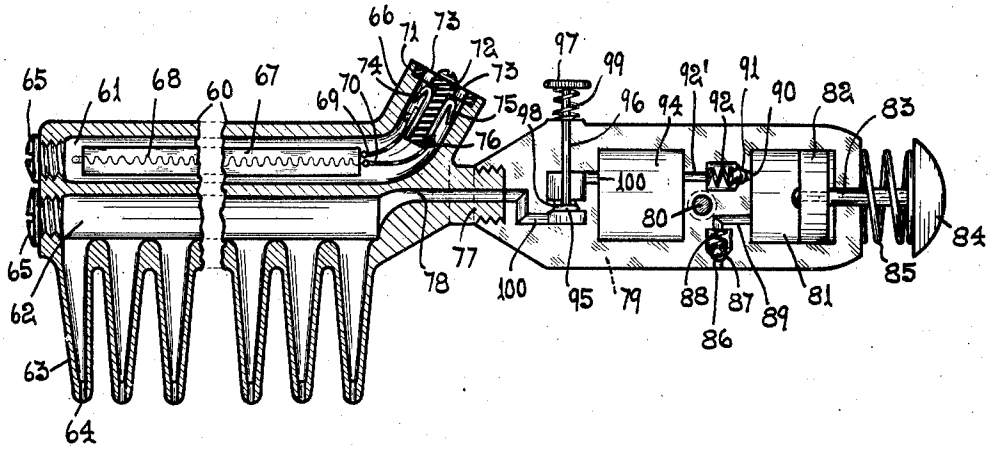
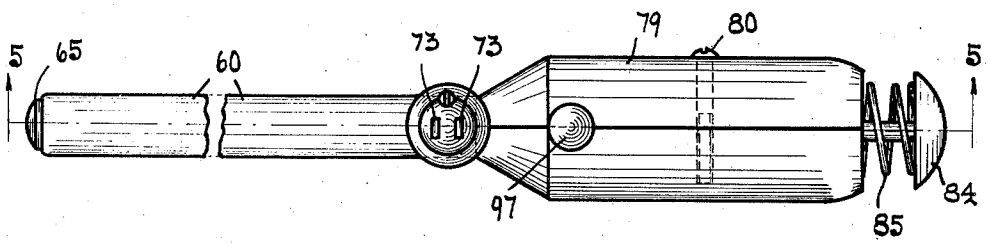


Fig. 6.



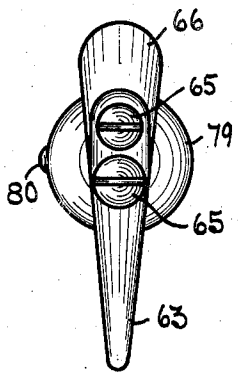


Fig. 7.

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2,166,295

TONIC AND OIL APPLICATOR

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7 Claims. (Cl. 132—13)

This invention relates to the tonsorial art and more particularly to a tonic and oil applicator.

It is an object of the invention to provide means for applying oils including olive oil and pomades, tonics and viscous substances directly to the scalp for maintaining the latter in a healthful condition, conducive to the propagation and growth of healthy hair.

Another object of the invention is to provide means for heating and thinning certain of said substances whereby the same readily flow for application directly to the scalp.

A further object of the invention is to provide heating, pressure and regulating means combined with a comb in a manner for causing said substances to be ejected through the ends of the teeth of the comb for direct application to the scalp and primarily to the exclusion of the main body portion of the hair.

A still further object of the invention is to provide means for applying oils, tonics, greases and scalp medicaments to the scalp in a heated condition and to also simultaneously heat the scalp for opening the pores of the skin of the latter for the reception of said medicaments.

Other and further objects and advantages of the invention will be obvious from the following detailed description thereof, reference being had to the accompanying drawings in which:

Figure 1 is a longitudinal section taken on line 1—1 of Figure 2 of a preferred embodiment of the invention.

Figure 2 is a top plan view, partially in section of the said embodiment, the view being taken on line 2—2 of Figure 1.

Figure 3 is an enlarged view of a regulating valve employed.

Figure 4 is an enlarged fragmentary section of one of the teeth of the comb.

Figure 5 is a view similar to Figure 1 and showing a modification of the preferred embodiment, the view being taken on line 5—5 of Figure 6.

Figure 6 is a top plan view of the modification, and

Figure 7 is an end view thereof.

As heretofore practiced in the art most of the substances above mentioned have been applied primarily by means of the fingers of an operator which required time and labor and often said substances did not become worked down through the mat of the hair nor rubbed on to the scalp in an advantageous manner. Also as heretofore practiced the major portion of said substances remained in the hair without penetrating to the scalp and roots of the hair thereby wasting the material, the latter greasing and soiling clothing, particularly pillow covers at night time and the present invention contemplates obviating the undesirable practices of the prior art by providing means for applying said substances directly to the scalp in an expeditious and efficient manner and to also simultaneously heat the scalp for opening the pores thereof when desired for a reception of a selected medicament.

Referring now to the drawings for a more particular description and first to Figures 1 through 4 inclusive, the invention includes a comb 20 of any selected length preferably formed of one of the several non-inflammable transparent, modern plastics. The comb may be of two piece construction having a plurality of teeth 21. In cases where the comb is comparatively elongated the ends of the row of teeth are arranged arcuate in side elevation, that is, the teeth at each end of the row project further away from the back of the comb body than do the teeth at the medial portion of said row, the ends of said teeth being arranged to substantially conform to the shape of the arcuate arrow A, whereby the ends of the teeth are aligned to conform closely to the shape of a person's head.

As shown in Figures 1 and 4 the teeth 21 are formed hollow, being each provided with a restricted outlet port 22 at their ends, said ports being in communication with passageways which extend through each tooth from the outlets 22 towards and in communication with a reservoir 23, the latter being common to and serving all of the teeth 21. Within the back of the comb and adjacent the reservoir 23 a heating coil 24 is provided for purposes later described. The coil encircles suitable insulation such as sheet mica or the like indicated at 24'. The back of the comb is preferably formed of two piece construction for facilitating replacement of the heating coil 24 at times when it becomes out of working order.

The reservoir 23 is provided with a conduit 25 which extends to and is in communication with the interior of a cylinder 26.

As best shown in Figure 3, the passageway 25 is provided with a cut off cock or regulating valve 27, the latter preferably being in the form of a screw having a pintle end 28 which is rotatable across the passageway 25. The screw 27 is provided with an exteriorly disposed knurled perimetrical edge 29 for facilitating rotation of the screw with the fingers, whereby the amount of fluid admitted to the reservoir 23 may be regulated by operation of the screw.

Within the cylinder 26 a piston head 30 is slid-

ably disposed, said head having a rod 31 formed integral with or joined to a rotatable cylinder cap 32, the latter being substantially as long as the rod 31.

The inner annular wall of the elongated hollow cap 32 is provided with threads 33 which are complemental to threads 34 provided on the exterior annular wall of the cylinder 26, whereby the cap may be removed for filling the cylinder with oil or the like and when replaced said cap may be rotated for compressing said substance for admission thereof to the reservoir past the cut off cock in a regulated or selected quantity.

Preferably a guard sleeve 35 extends from the main body portion of the comb a distance equal to the length of the cylinder 26 for providing a smooth handle and preventing the operator's hand from contact with threads 34. Preferably the piston head 30 is provided with a suitable rubber piston ring or gasket 36.

Referring to Figure 2, the ends of the resistance wire of the heating coil 24 are secured by means of suitable keepers or screw electrodes 37 and 38 to a case 39 formed of insulating material having a head 40. The head of the core 39 is squeezed into a sleeve-plug 41 provided with screw threads for attaching the plug to the main body portion of the comb as shown in Figure 2. The screws 37 and 38 are employed for also securing resilient spring electrodes 42 and 43 within the sleeve-plug 41 for purposes later described.

The head of the core further includes oppositely disposed notches 44 and 45 which in conjunction with the sleeve receive the studs or electrodes 46 and 47 which may be placed through the apertures and into electrical communication, at times, respectively with the spring electrodes 42 and 43.

The electrodes 46 and 47 are seated within a recess 47' of a detachable push-in-plug 48. The stud electrodes 46 and 47 are secured by any suitable means such as the screws 49 to the push-in-plug 48 for holding the electrodes 46 and 47 within said recess in a manner whereby contact with the hand of an operator is prevented.

The stud electrodes 45 and 46 are joined by means of said screws 49 respectively to the ends of detachable wires 50 and 51 which are insulated from each other and extend through an insulating covering or jacket 52. The other ends of the wires 50 and 51 are provided with a plug, not shown, whereby the comb is adapted to be placed, at times, in communication with a source of electrical energy such as a conventional 110 volt circuit and, if desired, a step down transformer, not shown, may be employed for decreasing said voltage. It will be also understood and it is obvious that the comb may be attached to a direct current battery of 6 volts or less if desired.

In operation the plug 48 is attached to the comb for causing the resistance coil to generate heat for heating the selected substance, tonic or oil in the reservoir for application. Preferably, after said heating the comb is detached from the plug 48. The operator with the palm of his hand abutted against the outer end of the cap 32 may, as desired, pump a slight pressure on to the substance within the cylinder 26, the cut-off cock 27 at this time being closed and later gradually opened for causing a preselected and regulated flow of said substance through the restricted outlet ports 22 of each tooth 21 of the comb at times when the ends of said teeth are abutted against the scalp. The teeth are caused to traverse over the scalp and as thus described it will be noted that medicaments or oils may be applied to the scalp directly and primarily adjacent to the roots to the exclusion of the long body portions of the hairs of the head, whereby the latter does not have a greasy appearance and the oils do not become wiped off on to clothing or the like.

Referring now to the modification depicted in Figures 5, 6 and 7, the invention includes a comb 60 formed of any suitable insulating material and provided with a compartment 61, a reservoir 62 and hollow teeth 63. The teeth are provided with outlet ports 64 at their narrowed outer ends which are in communication with the reservoir 62 and adapted to receive scalp medicaments therefrom, the reservoir and the compartment 61 being each provided with a removable screw plug 65.

The back of the comb is provided with an outwardly disposed boss portion 66 having a hollow neck which is in communication with the compartment 61. A heating coil is inserted through the neck of the boss 66 and into the compartment 61. The coil includes a plurality of elongated laminations of mica 67 or the like about which the resistance wires 68 of the coil extend, the ends of said wires being joined to oppositely disposed conductors or electrodes 69 and 70.

The outer end of the neck of the boss 66 is step cut to provide an annular recess 71 within which the head of a core 72 is received. The core is T-shaped in longitudinal cross section and provided wtih oppositely disposed apertures 73.

The main body portion of the core is elongated and supports upon the opposite sides thereof a pair of oppositely disposed spring electrodes 74 and 75 which are respectively joined to the conductors 69 and 70 by means of suitable keepers such as the screws 76 or the like.

The stud electrodes of a push-in-plug, not shown, are adapted to be inserted through the apertures 73 for contact between respective spring electrodes 74 and 75, said studs and push-in-plug being provided with a flexible cord in a well-known manner, whereby the coil is adapted to be energized by a suitable source of electrical energy as and for the purposes heretofore described. The end of the comb which is oppositely disposed with respect to the removable plug 65 is provided with a threaded bushing 77 through which a bore 78 extends to the reservoir 62 for admitting a later described fluid pressure to the reservoir.

The comb is provided with a handle 79 preferably formed of two-piece construction, the oppositely disposed half portions of which are secured together by any suitable means such as the screw 80.

At the outer end of the handle 79 a cylinder-bore 81 is provided within which a reciprocatable piston head 82 is slidably disposed.

The piston head is provided with a rod 83 which extends outwardly of and is journalled through the end of the handle. The outer end of the piston rod is provided with a push button 84 and between said button and the end of the handle a spring 85 encircles the rod 83 for returning the piston head 82 to a normal position.

An intake port 86 for air is provided for the cylinder 81, said port being normally closed by means of a ball check valve 87 which is normally urged against its seat by means of a spring 88. A passageway 89 is in communication with the

intake port 86 and the interior of the cylinder 81 as shown in Figure 5.

An outlet port 90 is provided for the cylinder 81, said outlet being normally sealed by means of a ball check valve 91 which is normally urged against its seat by means of a spring 92.

The outlet port 90 is in communication with a passageway 92' which leads to an air pressure compartment 94.

A release valve is provided for air pressure with the compartment 94, said valve including a valve-head 95 and a rod 96, the latter extending outwardly of the handle and being provided with a push button 97 at its outer end. The valve-head 95 is normally urged against its seat 98 by means of a spring 99 which encircles the exposed portion of the valve rod 96.

A passageway 100 extends from the air compartment 94 to the valve seat 95 and from the latter outwardly of the handle, said passageway at its outer end being medially disposed with respect to the handle whereby at times when the handle is threadedly secured to the bushing 77 the outer end of the passageway 100 is disposed in alignment with the bore 78 of the bushing 77.

In operation medicaments are placed in the reservoir 62, the plug 65 of the reservoir being removed for said purpose, the device is attached to a source of electrical energy for heating the coil wire 68. The teeth of the comb are placed in contact with the scalp and moved over the surface of the latter. At this time the comb may be disconnected from said source of electrical energy, if desired, and for certain purposes of application the heating of the coil is continued during use for heating the scalp and opening the pores thereof.

In instances where it is so desired the operator pumps a selected amount of pressure by actuating the piston head 82 and at times when the latter moves in a direction away from the air intake port 86, air is sucked into the cylinder 81 past the ball check valve 87, the urge of the spring 88 then being overcome. During a stroke of the piston head 82 in a direction towards the outlet port 90 the air is passed through the latter and against the urge of the spring 92 and at this time the spring 88 seats the ball check 87 for preventing the air from escaping through the intake port 86. At this time the release valve head is normally seated and by this means a few strokes of the piston provide a desired amount of air pressure in the compartment 94.

During application of the comb to the scalp the operator may place his thumb upon the push button 97 of the release valve head 95 for causing the pressure from the compartment 94 to be applied to the reservoir 62 and the medicaments therein for forcing the latter outwardly and evenly through each exit port 64 of each of the teeth 63 of the comb.

It will be understood that certain features and sub-combinations are of utility and may be employed without reference to other features and sub-combinations. This is contemplated by and is within the scope of my claims. It is further obvious that various changes may be made in details within the scope of my claims without departing from the spirit of my invention. It is, therefore, to be understood that my invention is not to be limited to the specific details shown and described.

I claim:

1. A scalp treating device comprising a comb provided with a plurality of hollow teeth adapted to contain a selected scalp medicament, said teeth each having an outlet port at its end, a resistance coil in said comb adapted to be connected to a source of electrical energy for heating said comb and medicament, a handle secured to the comb having a compartment therein for receiving air under pressure, said handle having a passageway between said compartment and said teeth, a release valve for normally closing said passageway, and means associated with said handle for supplying air under pressure to said compartment.

2. A scalp treating device comprising a comb provided with a plurality of hollow teeth adapted to contain a selected scalp medicament, said teeth each having an outlet port at its end, a resistance coil in said comb adapted to be connected to a source of electrical energy for heating said comb and medicament, an elongated cylinder secured to the comb having an open end and provided with a passageway between its bore and said teeth, a valve for normally closing said passageway, an elongated cover cap for closing the open end of the cylinder, and a piston head in the cylinder provided with a rod secured to the cap, said cap being movable longitudinally of the cylinder for causing medicament to flow outwardly of said ports at times when said valve is open.

3. A scalp treating device having in combination a comb provided with a plurality of hollow teeth adapted to contain a selected scalp medicament, said teeth each having an outlet port at its end for distributing medicament on said scalp through said ends, a handle secured to said comb, a resistance coil within said comb adapted to be detachably connected to a source of electrical energy for heating said comb and medicament, and means including a piston disposed in said handle for forcing said medicament through said teeth.

4. A scalp treating device comprising a head provided with a chamber, a plurality of hollow teeth communicating with said chamber, each of said teeth having an outlet port at its free end, a compartment in said head disposed above said chamber, a resistance coil in said compartment adapted to be connected to a source of electrical energy for heating said teeth and chamber, an elongated handle secured to said head and having a cylinder therein, a passageway connecting said chamber and cylinder, valve means for controlling said passageway, an elongated cover cap having a threaded engagement with said handle for closing the open end of the cylinder, a piston head working in said cylinder, and a piston rod connected to said piston head and cap.

5. A scalp treating device comprising a head provided with a chamber, a plurality of hollow teeth communicating with said chamber, each of said teeth having an outlet port at its free end, a compartment in said head disposed above said chamber, a resistance coil in said compartment adapted to be connected to a source of electrical energy for heating said teeth and chamber, an electric plug carried by said head and including screw electrodes for securing the ends of the resistance coil in the plug and spring electrodes secured in the plug by said screw electrodes, an elongated handle secured to said head and having a cylinder therein, a passageway connecting said chamber and cylinder, valve means for controlling said passageway, an elongated cover cap having a threaded engagement with said handle for closing the open end of the

cylinder, a piston head working in said cylinder, and a piston rod connected to said piston head and cap.

6. A scalp treating device comprising a comb provided with a plurality of hollow teeth adapted to contain a selected scalp medicament, said teeth each having an outlet port at its end, a resistance coil in said comb adapted to be connected to a source of electrical energy for heating said comb and medicament, a handle secured to the comb having a compartment therein for receiving air under pressure, said handle having a passageway between said compartment and said teeth, a plunger type release valve for normally closing said passageway, said handle also having a cylinder, a passageway between one end of the cylinder and the compartment, an air inlet passageway opening into the same end of the cylinder, and a piston working in said cylinder.

7. A scalp treating device comprising a comb provided with a plurality of hollow teeth adapted to contain a selected scalp medicament, said teeth each having an outlet port at its end, a resistance coil in said comb adapted to be connected to a source of electrical energy for heating said comb and medicament, a handle secured to the comb having a compartment therein for receiving air under pressure, said handle having a passageway between said compartment and said teeth, a plunger type release valve for normally closing said passageway, said handle also having a cylinder, a passageway between one end of the cylinder and the compartment, an air inlet passageway opening into the same end of the cylinder, and a piston working in said cylinder, and a plug electrically connected to said resistance coil and adapted to receive an electric cord plug.

EDWIN J. HEWITT.