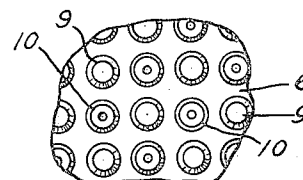
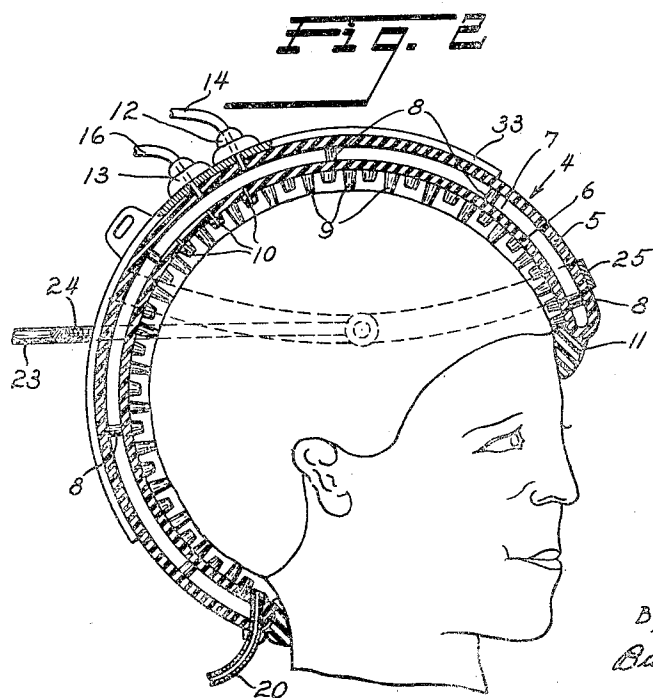
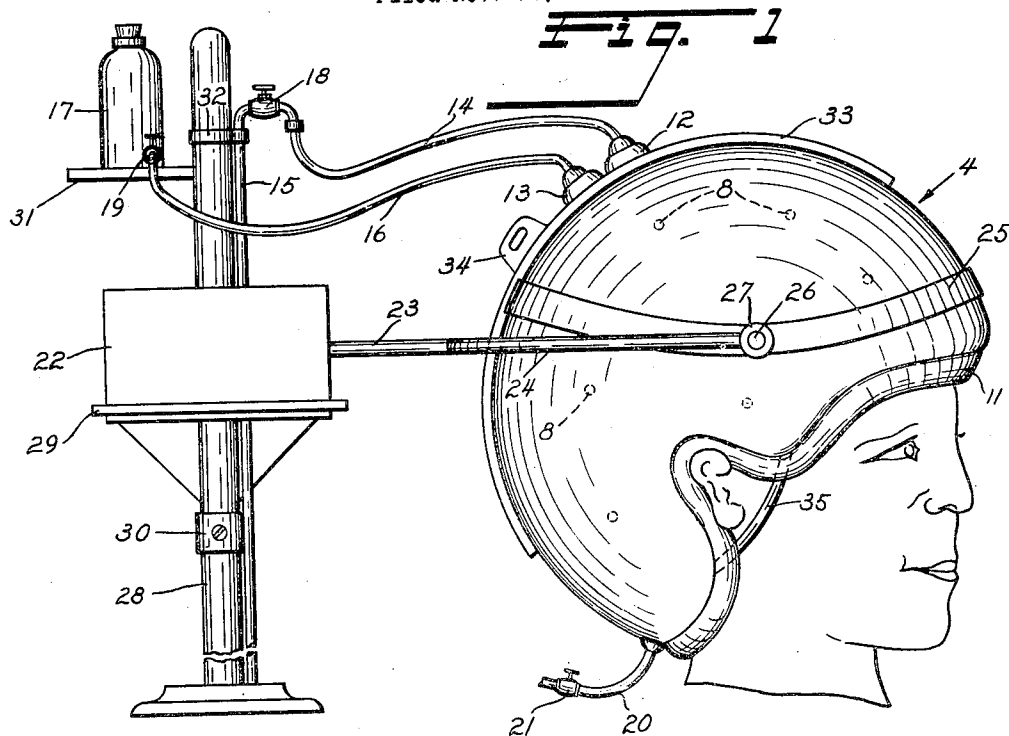


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HAIR TREATING APPARATUS

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HAIR TREATING APPARATUS

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My invention consists in new and useful improvements in apparatus for treating the hair and scalp and has as an object, to provide a device of this nature which is readily adaptable for various uses such as washing, rinsing, dyeing, oiling and massaging the hair and scalp of the human head.

Another object of my invention is to provide a combination hair washing hood and vibrating unit which is capable of completing its operation while the subject remains seated at one location, without the necessity of repeatedly moving from place to place during the course of washing and rinsing the hair.

I am familiar with previous efforts to this same general end, but so far as I am aware, such prior efforts have proven unsatisfactory for the reason that they have all required certain manual operations for one or more of the functions of washing, massaging and rinsing. It is therefore a further object of my invention to provide a combination apparatus which, when properly adjusted on the wearer's head will automatically apply a treating solution and regulated quantities of water and then automatically effect the required vibratory motion to thoroughly wash, dye or oil the hair and to massage the scalp and thereafter rinse the hair without requiring removal of the hood.

With the above and other objects in view, which will appear as the description proceeds, my invention consists in the novel features herein set forth, illustrated in the accompanying drawings and more particularly pointed out in the appended claims.

Referring to the drawings in which numerals of like character designate similar parts throughout the several views:

Figure 1 is a view in side elevation showing my improved hood in place on the head of a wearer and operatively connected for use;

Figure 2 is a vertical sectional view of the hood shown in Figure 1; and

Figure 3 is an enlarged fragmentary detail showing a section of the underside of the hood lining.

In the drawings, the hood is generally designated by the numeral 4 and is preferably composed of rubber or other suitable waterproof material having sufficient rigidity to retain substantially its normal molded shape, but having the requisite flexibility and resilience to render it adaptable to various head sizes. This hood consists of an outer wall 5 which conforms generally in shape to that of the human skull, the

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bounding edges of the hood opening, being shaped to follow substantially the hair line of the human head from front to back, as will be apparent from Figure 1. Spaced inwardly from the outer wall 5 and preferably integral therewith, is a lining 6 which follows the same general contour as the outer wall 5, the space between the lining and the outer wall, forming a liquid distribution chamber 7 which surrounds the wearer's scalp. At predetermined points suitably distributed throughout the area between the lining and outer wall, I provide a series of spacers 8 which may be formed of hard rubber or metal and which are adapted to maintain a substantially fixed relationship between the lining and the outer wall for the purpose hereinafter set forth.

The undersurface of the lining 6 is provided with a series of inwardly directed massaging fingers 9, adapted to engage the hair and scalp of the wearer and suitably spaced throughout the area of the lining as will be seen from Figure 2. Alternately arranged between these massaging fingers 9, are a series of nipples 10 having perforations in communication with the distributing chamber 7, whereby the liquid in said chamber is evenly distributed over the head of the wearer. The massaging fingers 9 and the nipples 10 may be formed integral with the lining 6 and of the same material or if desired, they may be separately attached and composed of a different material having the required characteristics.

The bounding edges of the hood opening are preferably formed with a tendency toward restriction so as normally to exert a sufficient inward pressure along the hair line to facilitate retention of the hood in place on the wearer's head. Adjacent said bounding edges and lying between the same and the wearer's head, I provide a resilient waterproof gasket 11 which may be formed integral with the hood or separately attached thereto by any preferred means such as cementing. Thus when the hood is applied, the area surrounding the skull is completely sealed against the exterior so as to prevent the leakage of fluid down over the face and shoulders of the wearer.

The upper portion of the hood is provided with two liquid inlets 12 and 13, extending through the outer wall 5 into the liquid distribution chamber 7, as will be seen in Figure 2. Inlet 12 is provided with a conduit 14 connected to a suitable source of water supply 15, while the inlet 13 is connected through conduit 16 to a receptacle 17 which may contain soap solution, dye or other

treating solutions. The conduits 14 and 16 are also equipped with suitable valves 18 and 19 respectively, for regulating the flow of the respective liquids into the chamber 7, as hereinafter set forth.

At the lowest point in the hood 4, I provide an outlet or drainage opening and discharge conduit 20 which leads from the interior of the lining 6, whereby the liquid collected over the head within the lining may be discharged to a suitable point of drainage, the conduit 20 being provided with a control valve 21. It will be noted from Figure 1, that the portion of the hair line immediately in front of the ears of the wearer is lower than the tops of the ears and, inasmuch as the bounding edge of the hood opening follows the contour of the hair line, a low point or pocket is formed within the lining 6. In order to prevent the collection of liquid in the lining at this low point, I preferably provide a by-pass drain tube 35 which connects the low point just described, with the lower extremity of the internal area of the lining 6, behind the wearer's ears, thus draining all liquids to one common discharge point.

In Figure 1, I have shown more or less diagrammatically, a vibrating unit 22 which may be of any suitable type, operated by an electric motor which causes a reciprocating motion to be imparted to a connecting rod 23, the latter being operatively secured to a U-shaped yoke 24. The yoke 24 spans the hood 4 and is connected on either side thereof to a rigid metal band 25 which surrounds the outer wall 5 of the hood and is fixed thereto by any suitable means. Preferably, the band 25 is provided with laterally projecting trunnions 26 which pivotally engage bearing members 27, carried at the free ends of the U-shaped yoke 24.

Thus when the vibrating unit 22 is set into operation, the connecting rod 23 reciprocates horizontally and in turn causes a corresponding reciprocation or vibration of the outer wall of the hood. This vibration is transmitted from the outer wall to the lining 6 by means of the spacers 8, the extent of the movement imparted thereto, being sufficient to cause the required massaging action of the fingers 9 on the hair and scalp, yet insufficient to cause discomfort to the head of the wearer. Preferably, the length of stroke of the vibrating connecting rod 23, is from $\frac{1}{2}$ to $\frac{3}{4}$ of an inch and the actual movement of the hood, due to the nature of the material used in both the hood and the gasket 11, is slightly less, which avoids undue strain on the wearer's head.

Any suitable arrangement may be employed for supporting the vibrating unit and the liquid containers. In Figure 1, I have shown one arrangement consisting of a vertical standard 28 having a platform 29 for supporting the vibrating unit 22, an adjusting screw 30 being provided for regulating the height of the unit 22. At the top of this standard a second platform 31 supports the solution container 17, and the water supply 15 is strapped to the standard 28 as at 32.

As an alternative method of connecting the vibrating unit, I may employ a semi-circular metal band 33 which is secured across the upper portion of the hood as shown in Figure 1, and has fixed thereto a rearwardly projecting lug 34 which may be fastened directly to the connecting rod 23 without the necessity of the U-shaped yoke 24. Regardless of the connecting member, it may be desirable to employ the strip 33 as a reinforcing means for the outer wall 5 and to add

strength at the points where the liquid inlet connections are installed.

The operation of my improved apparatus assuming that the wearer's hair is to be washed, is as follows:

The hood is applied to the wearer's head with the gasket 11 tightly in place and the discharge valve 21 closed. Soap solution from the receptacle 17 is admitted by gravity, to the chamber 7 through conduit 16, by regulating the control valve 19, and regulated quantities of water are admitted through the conduit 14 by manipulation of the control valve 18. The electric motor for operating the vibrating unit 22 is turned on and, through the connecting rod 23, yoke 24 and encircling band 25, the outer wall of the hood is caused to vibrate horizontally so that the massaging fingers 9 thoroughly distribute the soap solution throughout the hair and cause sufficient massaging action to work up the required lather. After the period of washing, the valve 19 on the soap solution receptacle is closed and the discharge valve 21 in the bottom of the hood is opened. By regulating the water supply valve 18, clear water is admitted to the chamber 7 and is thoroughly distributed through the series of nipples 10, over the head and hair of the wearer and is drained through the discharge conduit 20 to a suitable point of drainage, not shown.

When it is desired to dye or oil the hair, the receptacle 17 is replaced with a dye or oil receptacle, the fluid being admitted to the chamber 7, through the conduit 16, and the vibrating unit set into operation to cause a thorough distribution of dye or oil throughout the hair.

From the foregoing, it is believed that my invention may be readily understood by those skilled in the art without further description, it being borne in mind that numerous changes may be made in the details of structure, without departing from the spirit of the invention as set forth in the following claims.

I claim:

1. Hair massaging and treating apparatus, comprising in combination a hood of semi-rigid waterproof material adapted to enclose the hair and cranium of a wearer, means for sealing the bounding edges of said hood adjacent the hair line of the wearer, a lining in said hood spaced inwardly to form a liquid distributing chamber, means maintaining said spacing, at least one fluid inlet opening to said chamber, a series of discharge openings in said lining, a series of inwardly directed massaging fingers interposed between said discharge openings, a drain opening leading from the interior of said lining, and a vibrating unit operatively connected to said hood for bodily vibrating the latter to cause a massaging action by said fingers.

2. Hair massaging and treating apparatus including a semi-rigid hood formed of waterproof material which will retain substantially its normal shape but having sufficient resilience to render it adaptable to various head sizes, said hood having a lining of similar material spaced inwardly from its outer wall to form a fluid distributing chamber conforming substantially to the contour of the hood, spacers secured between said lining and outer wall and suitably distributed to maintain a substantially fixed relationship of the lining with respect to the outer wall of the hood, a series of inwardly directed fingers integral with the concave underside of said lining for engaging the hair and scalp, a series of perforations in said lining for distributing fluid from said chamber,

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resilient means bounding the edges of the hood opening for sealing the latter adjacent the hair line of the wearer, a fluid inlet in the outer wall of said hood communicating with said chamber, a fluid drain outlet from the interior of said lining, means for controlling said inlet and outlet, a vibrating mechanism, and means connecting said mechanism to said hood for bodily vibrating the latter.

3. Hair massaging and treating apparatus including a semi-rigid hood formed of waterproof material which will retain substantially its normal shape but having sufficient resilience to render it adaptable to various head sizes, said hood having a lining of similar material spaced inwardly from its outer wall to form a fluid distributing chamber conforming substantially to the contour of the hood, spacers secured between said lining and outer wall and suitably distributed to maintain a substantially fixed relationship of the lining with respect to the outer wall of the hood, a series of inwardly directed fingers integral with the concave underside of said lining for engaging the hair and scalp, a series of perforations in said lining for distributing fluid from said chamber, resilient means bounding the edges of the hood opening for sealing the latter adjacent the hair line of the wearer, a fluid inlet in the outer wall of said hood communicating with said chamber, a fluid drain outlet from the interior of said lining, means for controlling said inlet and outlet, a rigid band secured to the outer wall of said hood, a vibrating unit, and means operatively connecting said vibrating unit to said rigid band for bodily vibrating said hood and lining.

4. Hair massaging and treating apparatus including a semi-rigid hood formed of waterproof material which will retain substantially its normal shape but having sufficient resilience to render it adaptable to various head sizes, said hood having a lining of similar material spaced inwardly from its outer wall to form a fluid distributing chamber conforming substantially to the contour of the hood, spacers secured between said lining and outer wall and suitably distributed to maintain a substantially fixed relationship of the lining with respect to the outer wall of the hood, a series of inwardly directed fingers integral with the concave underside of said lining for en-

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gaging the hair and scalp, a series of perforations in said lining for distributing fluid from said chamber, resilient means bounding the edges of the hood opening and conforming substantially to the contour of the wearer's hair line for sealing the latter adjacent the hair line of a wearer, a by-pass drainage tube connecting the dip in said lining forward of the ears of the wearer to the low point of the lining behind the wearer's ears, a source of hair treating solution, means connecting the latter to said chamber, a source of water, means connecting said source to said chamber, a fluid drain outlet from the interior of said lining, means for controlling the flow of said treating solution and water to said hood, means controlling the drainage of fluid from said hood, a separate vibrating mechanism and means operatively connecting the latter to said hood for bodily vibrating the latter.

5. In hair massaging and treating apparatus, including a semi-rigid hood formed of waterproof material which will retain substantially its normal shape but having sufficient resilience to render it adaptable to various head sizes, a lining in said hood of similar material spaced inwardly from the outer wall of the hood to form a fluid distributing chamber conforming substantially to the contour of the hood, a series of inwardly directed fingers integral with the concave underside of said lining for engaging the hair and scalp, a series of perforations in said lining for distributing fluid from said chamber, resilient means bounding the edges of the hood opening and conforming substantially to the contour of the wearer's hair line, and a by-pass drainage tube connecting the dip in said lining forward of the ears of the wearer to the low point of the lining behind the wearer's ears.

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