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METHOD OF BLEACHING HAIR WITH A BLEACHING AGENT AND OZONIZED STEAM

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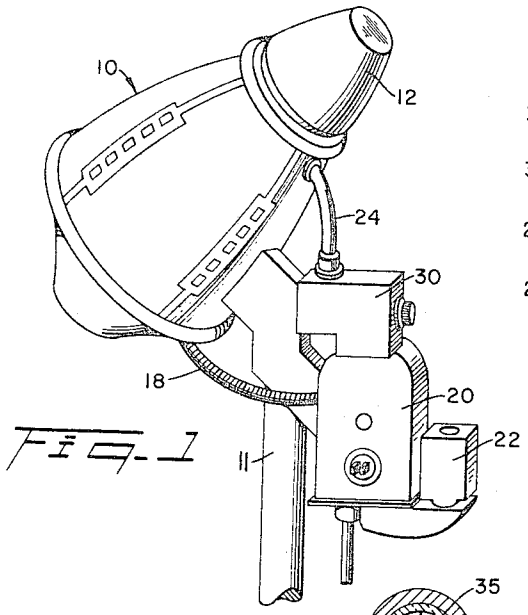

Fig. 1

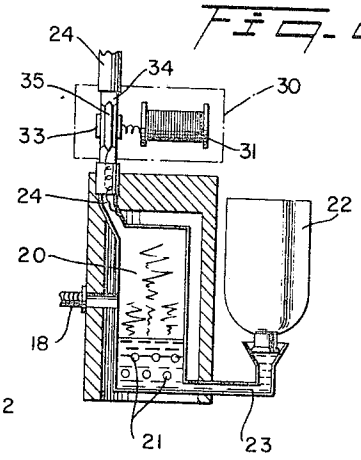

Fig. 2

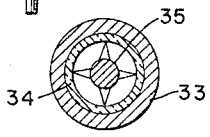

Fig. 7

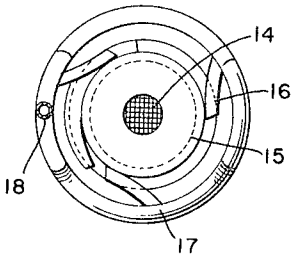

Fig. 5

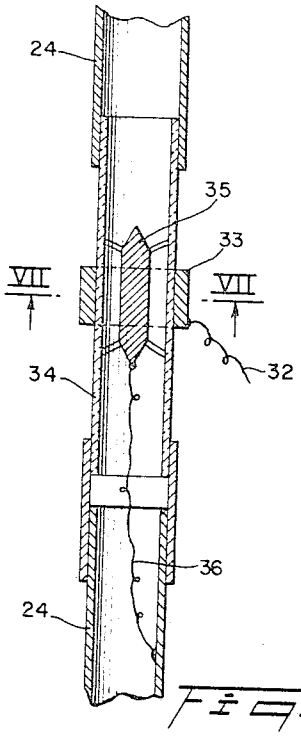

Fig. 3

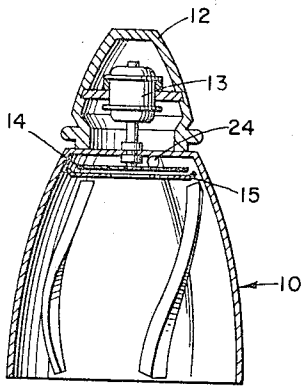

Fig. 4

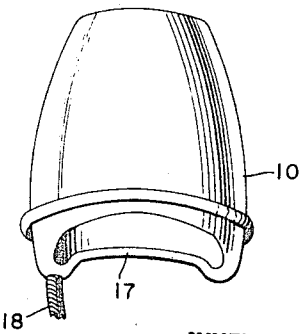

Fig. 6

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METHOD OF BLEACHING HAIR WITH A BLEACHING AGENT AND OZONIZED STEAM

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3 Claims. (Cl. 132—7)

One phase of this invention concerns a method of bleaching hair, particularly human hair; the invention also includes a novel apparatus useful in the treatment of hair.

The invention accelerates and improves the action of bleaching materials.

It has heretofore been proposed to use dry heat in the application of dyes and in bleaching, but dry heat has little effect in dyeing, is totally inoperative in the neutralization of cold permanent wave lotions; it is only in bleaching that the use of dry heat is really effective, but even there the gain of time rarely exceeds 25%.

It has also been proposed to use steam in the treatment of hair, but even in that case the results, while superior to the use of dry heat, are of limited success. In bleaching, the gain of time compared with the normal waiting time is about 40 to 50% when using steam.

The apparatus that is employed in the application of dry heat or of steam to the hair is imperfect, usually distributing the heat irregularly and causing irregular results. The apparatus is usually fragile, particularly in the heat generating parts.

It is an object of this invention to improve the action of bleaching agents on hair. A further object is an improved apparatus for the treatment of human hair.

The objects of the invention are accomplished, generally speaking, by applying a composition containing steam and ozone to the hair after bleaching. The inventive objects also include a novel apparatus for the application of such ozone-steam mixtures to the hair. A further object is to make and use ozonized steam for these purposes.

The above and further objects and novel features of the present invention will more fully appear from the following detail description when the same is read in connection with the accompanying drawings. It is to be expressly understood, however, that the drawings are for the purpose of illustration only and are not intended as a definition of the limits of the invention.

In the drawings, wherein like reference characters refer to like parts throughout the several views,

FIG. 1 is a vertical elevational view of the novel apparatus;

FIG. 2 is a diagrammatic sketch of the apparatus for producing ozonized steam;

FIG. 3 is a sectional view of the steam passage tube at the point where the molecular transformation takes place;

FIG. 4 is a detailed view in section of the helmet;

FIG. 5 is an end view of the helmet from the discharge end;

FIG. 6 illustrates diagrammatically a helmet shape;

FIG. 7 is a section on line VII—VII of FIG. 3.

EXAMPLE I.—BLEACHING

This invention is applicable to all the standard bleaches of which many contain hydrogen peroxide, or ammonia as the bleaching agent. Whatever the bleaching mixture may be, it is applied to the hair in the usual way, according to its accepted formula, the helmet is applied to the head and the ozonized steam is turned on. In this case

also the intermittent application of steam during periods of 5 minutes may be resorted to so that inspection may be had from time to time. More bleaching agent and more steam may be applied if necessary. In the most difficult cases, that is to say in a case involving a change of shade of four or five tones, the duration of the pause was formerly on the order of 75 minutes, but with the use of the ozone-steam mixture the same case will be completed in about 17 minutes.

As bleaching agents have a tendency to harm the hair, it is noteworthy that the use of ozonized steam which would have been thought to add to the injury, actually reduces the harmful action of the bleaching agents. In producing slight and medium bleachings, that is one to two tones, a time-saving of 70 to 80% is usual. In carrying out strong bleachings, three tones or more, gains of 60 to 75% are usual. A particularly important advantage is that the bleachings are much less yellow and the hair is more beautiful, more supple and more brilliant than that produced by the identical bleaching agent without the ozone-steam mixture.

Referring now to the figures of the drawing on which like numerals indicate like parts, 10 indicates a helmet of the sort employed in beauty parlors which is carried on a stand 11 of usual design. The helmet has a hollow end 12 in which is mounted a motor 13, which drives a fan 14. This dispersal unit 14 includes a metal disk which is driven rotatively behind a fixed metal disk 15 which has a central orifice and permits the flow of steam around its periphery, between its outer edge and the wall of the helmet. The helmet is interiorly provided with deflectors 16 which are somewhat helically arranged and serve to secure a good and even distribution of the ozonized steam on the hair. The ozonized steam is delivered by a tube 24 to a position above the disk 15. The lower end of the helmt has an inturned flange at 17, the flange being inturned sufficiently to catch condensate and return it to the boiler through a tube 18. The ozonizer includes a small boiler 20 in the bottom of which are heating tubes 21 which contain resistances. Water is maintained somewhat above the level of the resistance tube by means of a feeding bottle 22, which is in connection through pipe 23 with the bottom of the boiler. The upper part of the boiler has liberal space for the accumulation of steam. The disk is meshed or perforated.

A pipe 24 connects the boiler with the helmet.

The ozone generator 30 is placed immediately above the boiler and is of high frequency type, comprising a coil with vibrator and condensor. It includes a coil 31 of high frequency, connected by a very short wire 32 to a ring 33 surrounding a glass tube 34 in the pipe 24, which constitutes the central part of its length. The steam coming from the boiler passes through this glass tube inside the ring 33 and over an electrode 35 which is supported centrally in the tube and is electrically connected by wire 36 to the metal pipe 24. This electrode 35 should be placed in the exact central position of the tube because it constitutes means for deflecting and strangling the steam circulation in the tube and permits a perfectly balanced and logical distribution of the electric discharges acting on the steam. The wire 36 constitutes a grounding of the electrode 35.

The ozonized steam passes through the continuation of pipe 24 to the helmet where it is dispersed by the rotating plate 14 and applied to the hair.

As many apparently widely different embodiments of the present invention may be made without departing from the spirit and scope thereof, it is to be understood that the invention is not limited to the specific embodiments.

What is claimed is:

1. The method of bleaching hair that comprises applying a hair bleaching agent to the hair, and applying ozonized steam to the hair.

2. The method of bleaching hair that comprises applying a hair bleaching agent to the hair, applying a mixture of steam and ozone to the hair intermittently until the desired tint is obtained, and treating the hair as by washing and rinsing.

3. The method of bleaching hair that comprises applying a hair bleach to the hair, and exposing the hair in the presence of the active bleach to a mixture of steam and ozone.

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