Dec. 11, 1934. J. K. LIVINGSTON 1,983,909

HAIR TREATING APPARATUS AND ALSO PROCESS OF PERMANENTLY STRAIGHTENING HAIR ON A HUMAN HEAD

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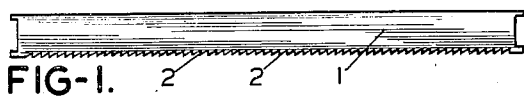


FIG-1.



FIG-2

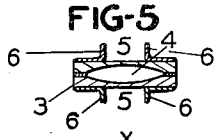


FIG-5



FIG-7

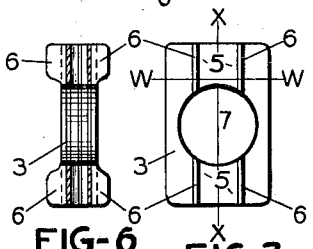


FIG-6

FIG-3

FIG.8.

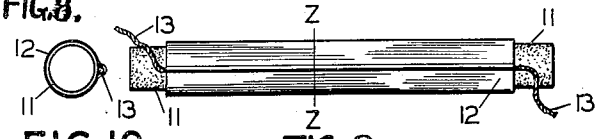


FIG-10

FIG-9

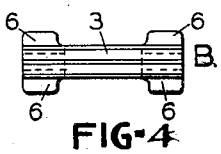


FIG-4

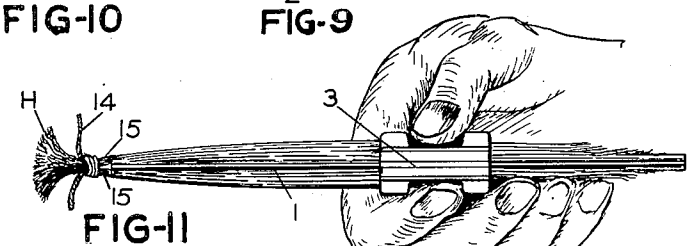


FIG-11

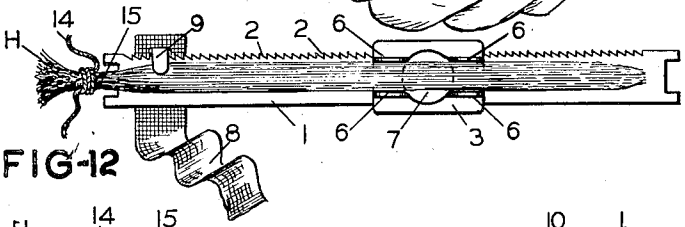


FIG-12

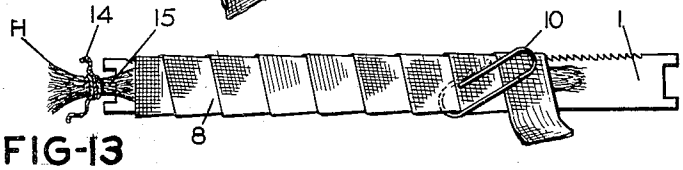


FIG-13



FIG-15

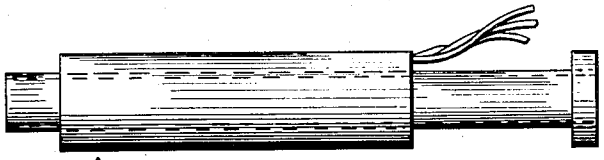


FIG-14

JAY K. LIVINGSTON,

INVENTOR.

BY James R. Cole

ATTORNEYS.

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1,983,909

HAIR TREATING APPARATUS AND ALSO PROCESS OF PERMANENTLY STRAIGHTENING HAIR ON A HUMAN HEAD

Jay K. Livingston, Tulsa, Okla., assignor of one-fourth to James R. Cole, Tulsa, Okla., and one-fourth to Patent Securities Company

Application June 2, 1932, Serial No. 614,936
Renewed March 5, 1934

12 Claims. (Cl. 132—36)

My invention relates to a process of permanently straightening kinky or curly hair on the head of a human being, and has for its objects: to provide a method whereby such hair will be caused to become straight and will permanently remain in that state, and furthermore to provide such a process whereby the structure of the hair will be caused to assume substantially that of normally straight hair which will not return to its kinky or curly state even tho it may be repeatedly washed with soap and water in the usual manner, and when subjected to such washing will react thereto the same as naturally straight hair.

My invention also relates to new and useful improvements in certain apparatus adapted for use not only in my process but also for use in other methods of treating the hair, and has for its objects: to provide a hair holding bar adapted to hold hair on the human head while the hair is being subjected to treatment, and having means thereon for holding a wrapping material on the bar and also means to prevent the bar from slipping sidewise off that part of the hair which is being held on the bar; to also provide a strip of shrinkable absorbent material adapted to form a casing within which to enclose said bar and hair held thereon, and to also provide a means of fastening one end of said strip to said bar; to provide an enclosing heat confining tube adapted to slip over said wrapping and its contents and to be sealed at one end and having a protective covering thereon and with said covering containing a rip cord whereby the protective covering may be removed from the tube; and also to provide an aligning block adapted to be slidably mounted on said bar wherewith the hair may be aligned on said bar or may, as with other methods of treatment, be used to draw the hair taut on the bar.

With the above and other objects in view which will appear as the description proceeds, my inventions consist in the novel features hereinafter set forth in detail, illustrated particularly as to apparatus in the accompanying drawing, and more particularly pointed out in the appended claims.

In practicing my process, the hair on the human head is first thoroughly cleaned and dried, then a small amount of mineral oil is worked into the hair and the hair then combed with a hot comb causing the hair to assume a straight or comparatively straight structure, then, while retaining the hair in a straight position, subjecting it to the action of heated vapors generated from a liquid alkaline solution causing the hair to become permanently set, apparently changing its structure to that of normally straight hair so that it may be subjected to any of the usual washing treatments given to straight hair without causing it to return to its original kinky or curly state.

Altho the application of said heated vapors to said hair may be made in several ways, preferably it is done by dividing the hair into tufts of convenient size, laying the hair out straight and while retaining it in that position firmly wrapping each tuft in a wrapping of shrinkable absorbent material saturated with a liquid alkaline solution and then applying the heat to the wrapper and its contents. As it is very desirable to hold the hair as straight as possible during this part of the treatment, it is preferred to place the hair on a bar, and particularly to place the hair on my form of holding bar. In using my form of bar each tuft of hair is tied or bound as by a string placed close to the scalp of the head and each tuft is then divided into two parts or strands and the holding bar then placed between the two strands and one end of the bar pressed against the bifurcation of the tuft. The aligning block is slidably mounted on the bar and is run down thereon close to the scalp and both strands of hair placed thereon, one on either side thereof, where it is retained in a groove thereon positioned longitudinally of said bar on either side of said block. The block is then moved outwardly from said head and along said bar and at the same time the operator applies pressure to said strands of hair on said block, as with the thumb and finger of one hand pressing the hair between them, causing the hairs in the strands to lay straight on the bar as illustrated in Fig. 5 of the hereinafter mentioned drawing, and while the hair is laid out straight on said bar it is enclosed in a wrapper or casing of shrinkable absorbent material saturated with a liquid alkaline solution as aforesaid. Preferably the casing is firmly wrapped about its contents. If my form of wrapper is to be used, which is preferable because with it the casing may be more firmly wrapped and is easier to put on, instead of using the thumb and index finger as shown in the drawing mentioned, the operator can use his thumb and second finger and avail himself of the use of his index finger in manipulating the wrapping as it is being wound about the bar with the hair thereon. In using this wrapping it is first saturated with a liquid alkaline solu-

tion and, commencing close to the scalp, is spirally wrapped while being tightly stretched and with the windings overlapping each other to form a casing. Wrapping is facilitated by using a hook on one end of the strip with which to hook the strip to the bar preparatory to wrapping as shown in Fig. 6 of the hereinafter mentioned drawing. As the winding proceeds, the aligning block is moved backward on the bar. After the winding has been completed, the free end of the strip may be secured to the bar by an ordinary paper clip. The casing and its contents is then enclosed within a heat confining tube of suitable material such as lead or tin foil, and the end of the tube situate nearest to the head is closed as by twisting or crimping the end of the tube to prevent heated vapors from escaping from the tube and injuring the scalp. A conventional electric or other heater of the tube type of construction is then placed about the heat confining tube and its contents, and the same caused to generate heated vapors from said liquid alkaline solution with which the aforesaid wrapper or casing is saturated.

It is not to be understood that the hair close to the scalp and which is not confined within the casing and subjected to the heated vapors, will become permanently straight, nor that the new growth of hair will be straight, but only that the hair actually treated will become permanently straight as aforesaid.

The apparatus above referred to is shown in the drawing in which numerals of like character designate similar parts thruout the several views:

Fig. 1 is a view in side elevation of my holding bar.

Fig. 2 is an end view thereof.

Fig. 3 is a top plan view of my aligning block. It is also a bottom plan view thereof as both top and bottom are the same.

Fig. 4 is a view thereof in side elevation.

Fig. 5 is a view in cross section on line W—W of Fig. 3.

Fig. 6 is a view in cross section on line X—X of Fig. 3.

Fig. 7 is a top plan view of my strip of shrinkable absorbent material with which to form a casing and showing a hook as a fastening means at one end of said strip.

Fig. 8 is a sectional view on the line Y—Y of Fig. 7.

Fig. 9 is a view in side elevation of my heat confining tube.

Fig. 10 is a view of the same in end elevation.

Fig. 11 is a view illustrating the manner of using my holding bar and aligning block therewith.

Fig. 12 is another view illustrating the same and showing the above mentioned strip attached to the bar preparatory to forming the casing mentioned.

Fig. 13 is an additional view of the same showing the casing in place over the hair and bar, except for the last wrapping, and showing the overlapping of the strip and the fastening of the free end thereof.

Fig. 14 is a view in side elevation of a conventional heater of the hollow tube type adapted to receive the heat casing confining tube aforesaid.

Fig. 15 is a view of the same in end elevation.

1 represents a holding bar, preferably of metal, bifurcated at the ends and having projections 2 thereon adapted to contact and hold a strip to be wound about the bar, said projections preferably being teeth positioned along the edge of the bar as shown in the drawing. Preferably the bar is made convex in cross section as clearly shown in Fig. 2.

3 represents generally an aligning block adapted to be slidably mounted on the bar 1 thru an aperture 4 in said block. 5 represents a groove in said block disposed longitudinally of the axis of said aperture 4, the block being made with such a groove on both of its sides. In the drawing the groove is shown as being formed by vanes 6 on the face of the block, but it may be formed in any other manner as by placing lugs or pins thereon as retaining guides for the hair. Transverse of the aperture 4 is another aperture 7 in said block, which aperture bisects the groove 5 and thru which the hair when placed on the block may be pressed into frictional contact with the bar 1 when the block is slid thereon in aligning the hair on said bar, as illustrated in Fig. 5 of the drawing.

8 represents a strip of flexible, shrinkable absorbent material adapted to form a casing as aforesaid and to absorb a liquid alkaline solution as previously mentioned, with 9 a hook at one end of the strip adapted to secure the end thereof to the bar 1 preparatory to winding the strip on said bar, and with 10 a common paper clip.

11 represents the inner tube of my heat confining tube, 12 the outer protecting tube therefor which is of material stiff enough to protect the inner tube and yet adapted to be ripped by a rip cord 13 placed within the outer tube 12.

H represents a tuft of hair on a human head, which is not shown, and with said tuft tied together close to the scalp as with a string 14.

In using my equipment in the preferred manner, after the hair has been separated into tufts and the tufts tied as aforesaid, each tuft is divided into two strands each of which is designated as 15, and the bar 1 with block 3 thereon is then inserted between the strands with one end of the bar pressed against the bifurcation of the tuft. The bifurcation in the end of the bar retains it in position between the strands. For convenience only, the bar is bifurcated at both ends which then are interchangeable.

The operation of my pieces of apparatus has already been explained in disclosing my process, and need not here be repeated.

However, in using my equipment in manner other than in the practice of my process as hereinabove disclosed, the bar may be used, without dividing the tuft of hair into strands as aforesaid, by tying the hair to the bar as has been the practice, or preferably by tying the tuft close to the scalp by a string and looping the forks, which are on the end of the bar, within the string in which case a greater tension may be exerted on the hair, and particularly if my aligning block is also used, in which case it is not used so much as an aligning block as it is a stretching block with which to stretch the hair straight and to hold it taut under tension during steaming, which is not necessary with my method. Moreover my strip 8 may be used in place of the conventional casing, and its use is desirable in that with it the casing can be more firmly wrapped about the hair on the bar. Furthermore, my heat confining tube may also be used in the ordinary method of treating the hair as well as used in my process.

Having thus fully disclosed my inventions

both as to process and as to apparatus as aforesaid, what I claim and desire to secure by Letters Patent is:—

1. The herein described method of permanently straightening kinky or curly hair on the head of a human being, which consists in first cleaning and drying the hair, then applying a slight amount of mineral oil to it and combing it with a hot comb until it is of the desired straightness, dividing it into separate tufts of size convenient to handle, tying each tuft close to the scalp, then dividing the tuft into two divisions or strands and inserting a holding bar between the strands pressing one end of the holding bar against the bifurcation of said tuft and aligning the hair on said holding bar longitudinally thereof and with the hair held in that position on said bar then firmly encasing said tuft of hair on said bar within a casing of shrinkable absorbent material saturated with a liquid alkaline solution, and then subjecting said hair and its enclosing case saturated as aforesaid to heat confined about said casing causing heated vapors from said liquid alkaline solution to form within said casing and to permeate the hair within the same, and continuing to subject said hair to said heated vapors until the structure of said hair has assumed that form in which it will remain permanently straight.

2. The herein described method of permanently straightening kinky or curly hair on the head of a human being, which consists in first cleaning and drying the hair, then applying a slight amount of mineral oil to it and combing it with a hot comb until it is of the desired straightness, dividing it into separate tufts of size convenient to handle, tying each tuft close to the scalp, then dividing the tuft into two divisions or strands and inserting a holding bar between the strands pressing one end of the holding bar against the bifurcation of said tuft and aligning the hair on said holding bar longitudinally thereof and with the hair held in that position on said bar then firmly encasing said tuft of hair on said bar by tightly wrapping a strip of shrinkable absorbent material which is saturated with a liquid alkaline solution, overlapping the strip in a spiral as it is wound on said holding bar and around the hair thereon, then placing a tube around said casing and its contents and sealing the end of said tube which is located nearest to the scalp, and then subjecting said tube and its contents to heat causing heated vapors from said liquid alkaline solution to form within said casing and to permeate said hair therein and continuing to subject said hair to said heated vapors until the structure of said hair has assumed that form in which it will remain permanently straight.

3. The herein described method of permanently straightening kinky or curly hair on the head of a human being, which consists in first cleaning and drying the hair, then applying a slight amount of mineral oil to it and combing it with a hot comb until it is of the desired straightness, dividing the hair into separate tufts of convenient size and laying it straight or taut on a holding bar and while the hair on said bar is being so held encasing said tuft of hair on said bar within a casing of shrinkable absorbent material saturated with a liquid alkaline solution, and then subjecting said hair and its enclosing case saturated as aforesaid to heat confined about said casing causing heated vapors from said liquid alkaline solution to form within said casing and to permeate the hair within the same, and continuing to subject the hair to said heated vapors until the structure of the hair has assumed that of a substantially normal straight hair.

4. The herein described method of permanently straightening kinky or curly hair on the head of a human being, which consists in first cleaning and drying the hair, then applying a slight amount of mineral oil to it and combing it with a hot comb until it is of the desired straightness, dividing the hair into separate tufts of convenient size and laying each tuft straight or taut on a holding bar and while the hair on said bar is being so held firmly encasing said tuft of hair on said bar within the casing of a shrinkable absorbent material saturated with a liquid alkaline solution, then placing a tube around said tuft of hair on said bar and about said casing and sealing the end of said tube which is nearest to the scalp and subjecting said tube and its contents to heat causing heated vapors from said liquid alkaline substance to form within said casing and to permeate said hair therein and continuing to subject said hair to said heated vapors until the structure of said hair has assumed that form in which it will remain permanently straight.

5. The herein described process of permanently straightening kinky or curly hair on the head of a human being, which consists in first cleaning and drying the hair, then applying a slight amount of mineral oil to it and combing it with a hot comb until it is of a desired straightness, dividing the hair into separate tufts of convenient size and holding the same extended straight and while in said straight position tightly wrapping the tuft with a shrinkable absorbent material saturated with a liquid alkaline solution and subjecting said wrapping and its contents to heat causing heated vapors to be generated from said liquid alkaline solution within said wrapping and to permeate the hair therein, and continuing to subject the hair to said heated vapors until the structure of said hair assumes that form in which it will remain permanently straight.

6. A holding bar for use in holding hair of the human head thereon, comprising a metal bar wider than it is thick and wherein the wider surfaces thereof is arched to form a convex surface with the thickest portion of said bar extending centrally and longitudinally of said bar, a series of projections along one edge of said bar, and with one end of said bar being bifurcated.

7. An aligning block for use on a holding bar for holding hair of the human head thereon, and with said block comprising a sleeve adapted to be slidably mounted on said bar, an aperture in said sleeve and with said aperture positioned transversely of said bar when said sleeve is mounted thereon, and a groove on the outer surface of said sleeve and longitudinally disposed with the axis thereof, and with said groove bisected by said aperture.

8. The combination of a holding bar for holding hair of the human head thereon, an aligning block slidably mounted thereon, means of holding a strand of hair on said block in longitudinal alignment with said bar while sliding said block on said bar.

9. The combination of a bar as claimed in claim 8, and means of holding hair on said block in frictional contact with said bar while sliding said block on said bar.

10. A strip of flexible, shrinkable, absorbent material adapted to be wrapped about hair positioned on a holding bar for holding hair of the human head thereon, and a hook on said strip positioned at one end thereof.

11. A heat confining tube adapted to use in steaming the hair on a human head, and with said tube comprising an outer tube of material adapted to be ripped by a rip cord placed within said tube, an inner tube of thin malleable sheet material rolled and lapped and adapted to confine steam therein generated from a liquid alkaline solution, and with an end of said tube protruding beyond the corresponding end of said outer tube, and a rip cord within said outer tube and having one of its ends extending beyond said outer tube.

12. A heat confining tube as claimed in claim 11, and with said protruding end of said inner tube adapted to be crimped.

JAY K. LIVINGSTON.