

[54] HAIR CURLER

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[51] Int. Cl. A45d 2/12

[58] Field of Search 132/33 R, 33 G, 38, 132/39, 40, 42

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[57]

ABSTRACT

A hair curler for subjecting hair to hot steam to effect a curling action includes a hollow perforated core surrounded by a compressible porous foam pad mounted within a generally semi-cylindrical shield to protect the scalp from being subjected to the hot steam.

9 Claims, 7 Drawing Figures

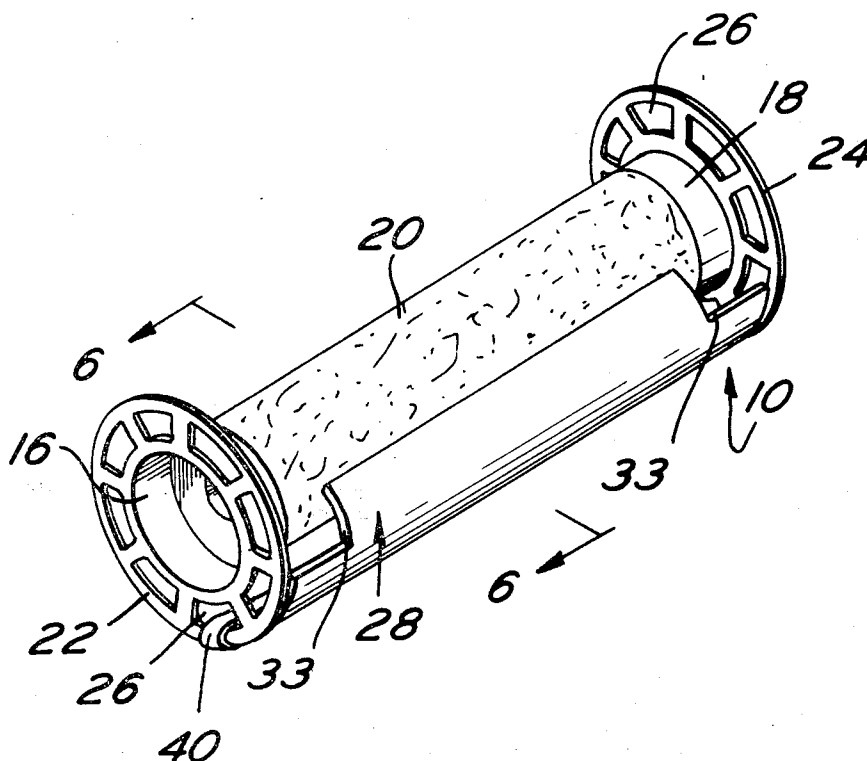


FIG. 1

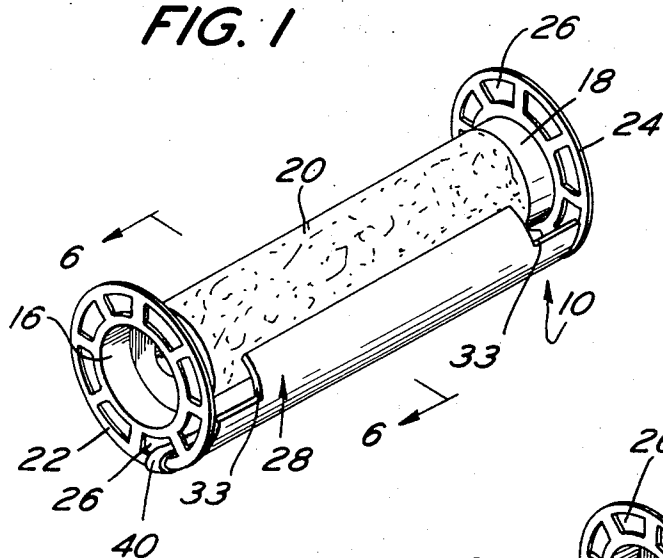


FIG. 2

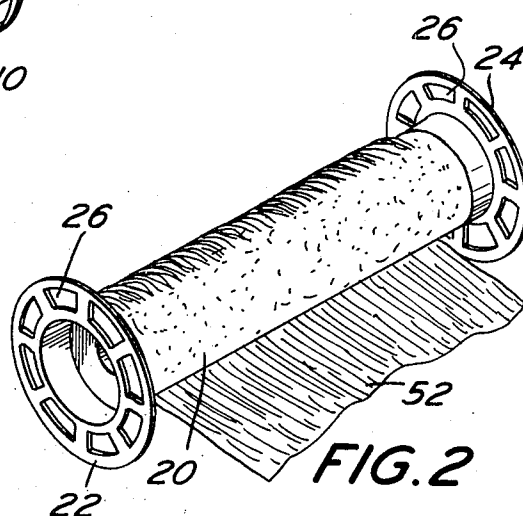


FIG. 3

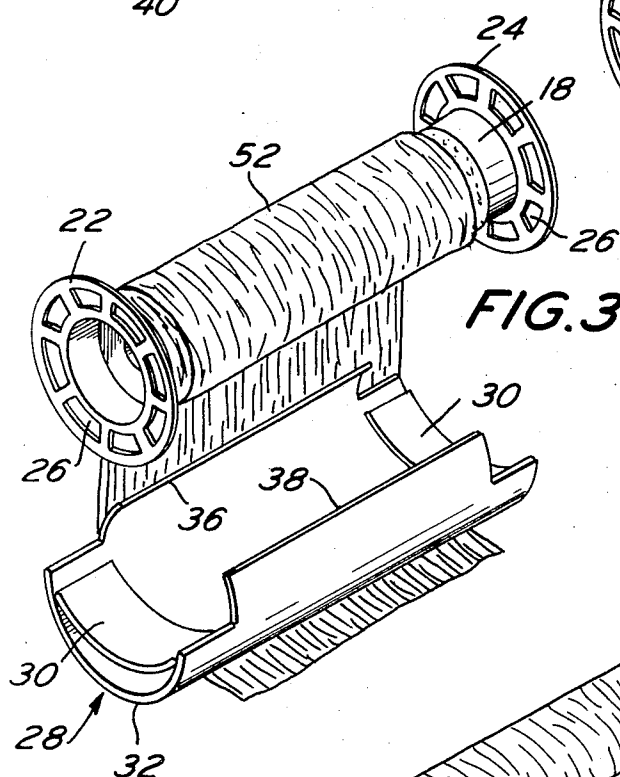
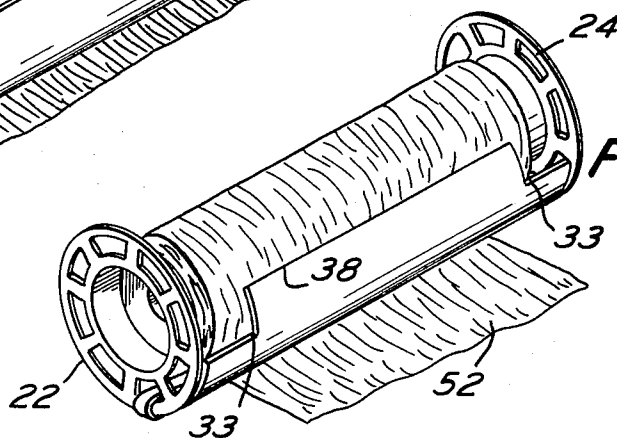
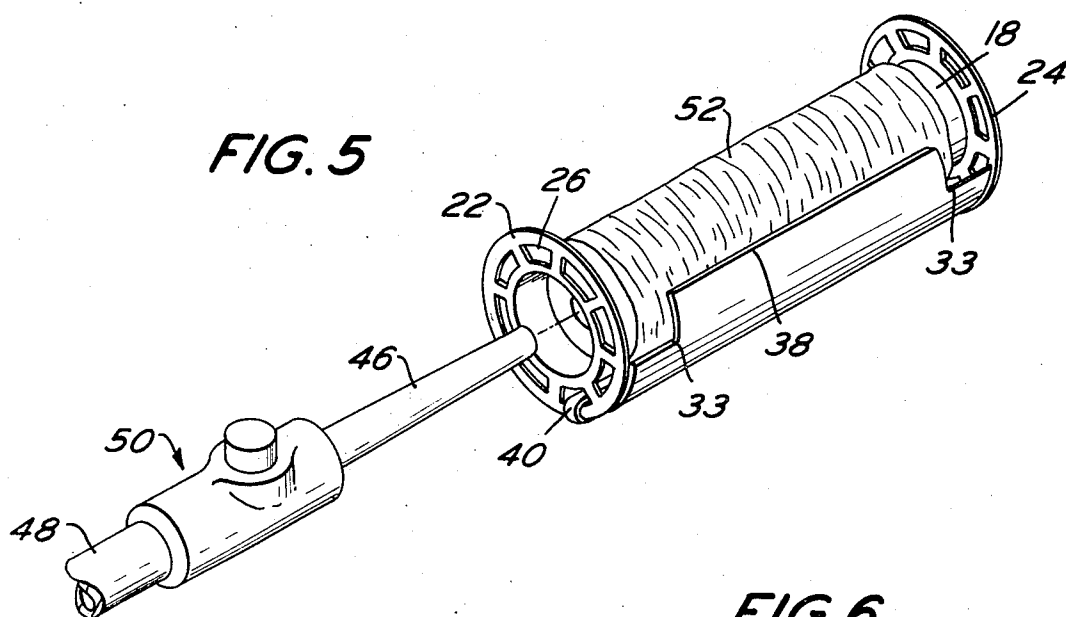
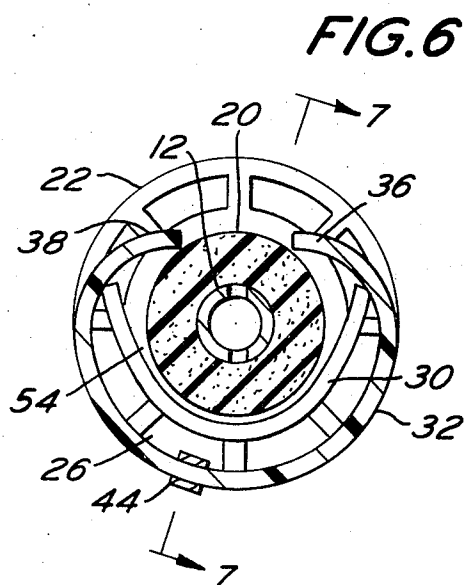
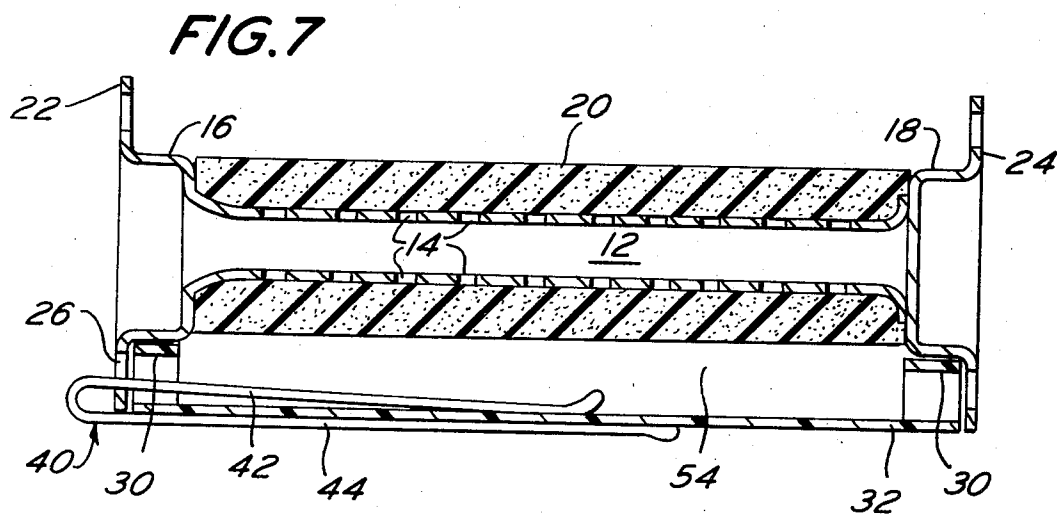


FIG. 4





HAIR CURLER

This invention is directed to a hair curler, and more particularly, to a hair curler structurally interrelated in a manner whereby hot steam may be applied to hair wound around the curler to effect a curling action. Hot steam is applied to the interior of the curler for a time period of approximately three seconds, during which time the hair becomes curled and dry. Thereafter, the curler may be removed.

The hair curler of the present invention includes a hollow perforated core having a hub at each end. At least one of the hubs has an opening communicating with the interior of the core. The core is surrounded by a compressible porous pad made from a material such as foam polymeric plastic. A wide variety of foam polymeric plastic materials may be used, examples of which include foam polystyrene, foam polyurethane, etc.

A shield is provided to prevent the steam from being directed toward the scalp. The shield is preferably semi-cylindrical. A suitable clip is provided for coupling the perforated core to the shield to prevent disassembly of the same while steam is being applied.

A hair curler structurally interrelated in a manner whereby curling may be attained by low pressure steam within several seconds has advantages over conventional hair curlers. The hair curler of the present invention effects a curling action within three seconds while at the same time provides a finer curl. As a result thereof, it is not necessary for the hair to be subjected to a drier which can take up to one hour. Accordingly, men or women may have their hair curled without the inconvenience of sitting under a dryer for substantial periods of time. The hair curler of the present invention is adapted for home use as well as professional use.

It is an object of the present invention to provide a novel hair curler.

It is an object of the present invention to provide a hair curler which will facilitate curling of hair within three seconds.

It is another object of the present invention to provide a hair curler which may be used professionally or at home while eliminating the necessity for the hair to be subjected to a drying action for substantial periods of time.

It is another object of the present invention to provide a novel hair curler having a minimum number of components structurally interrelated in a novel manner capable of being mass-produced at low cost.

Other objects will appear hereinafter.

For the purpose of illustrating the invention, there is shown in the drawings a form which is presently preferred; it being understood, however, that this invention is not limited to the precise arrangements and instrumentalities shown.

FIG. 1 is a perspective view of a hair curler in accordance with the present invention.

FIG. 2 is a perspective view showing hair being wound around the curler shown in FIG. 1.

FIG. 3 is an exploded view showing hair wound around the curler and a shield to be used in conjunction with the curler.

FIG. 4 is a perspective view similar to FIG. 1, but showing hair wound around the curler.

FIG. 5 is a perspective view showing a steam nozzle and its relationship with the curler having hair wound therearound.

FIG. 6 is a sectional view taken along the line 6—6 in FIG. 1.

FIG. 7 is a sectional view taken along the line 7—7 in FIG. 6.

Referring to the drawing in detail, wherein like numerals indicate like elements, there is shown in FIG. 1 a hair curler in accordance with the present invention designated generally as 10. The hair curler 10 includes a core 12 which is slightly tapered radially outwardly at its ends as shown more clearly in FIG. 7. The core 12 is provided with a plurality of radially directed openings 14. Core 12 is provided with a hub 16 at one end and a hub 18 at the other end. The diameter of the hubs is substantially larger than the diameter of the core 12.

A porous pad 20 surrounds the core 12 along the length thereof between the hubs 16 and 18. The radial thickness of the pad 20 is preferably such that its periphery is slightly radially inwardly from the periphery of the hubs 16 and 18. Pad 20 is preferably a foam polymeric plastic as referred to above so as to be highly porous and compressible. The foam pad 20 acts as a baffle and distributor of the steam in all directions with respect to hair to be wound therearound.

The hub 16 is provided with a radially outwardly directed rim 22. Hub 18 is provided with a similar rim 24. Each of the rims 22 and 24 is connected to the respective hubs by ribs spaced from one another so as to define openings 26. The core 12, hubs 16 and 18, and the rims are preferably made in one integral piece from lightweight non-corrosive material such as plastics, aluminum, etc.

A shield designated as 28 is provided to protect the scalp from hot steam. The shield 28 is generally semi-cylindrical as shown more clearly in FIG. 6. It has two spacer members 30 which are spaced inwardly from outer layer 32. The spacer members 30 and outer layer 32 are joined together at the jaws 36 and 38 as shown in FIG. 6. The corners 33 of the shield are preferably cut out so that an escape is provided for moisture confined within the shield.

The shield 28 is preferably made from a lightweight material having poor conductivity. Any one of a wide variety of rigid plastic materials such as polyvinylchloride or polystyrene may be used. While the shield is preferably made from a rigid material, the jaws 36 and 38 have some flexibility so that the core having the pad 20 and hair wrapped therearound may be forced downwardly between the jaws 36 and 38 whereby an assembled relationship may be attained.

The assembled relationship is maintained by means of a clip 40. The clip 40 includes legs 42 and 44 interconnected at a bight portion. Leg 42 extends through one of the openings 26 in the rim 22 and between one of the spacer members 30 and shield 28. The spacer members 30 are operative to hold the shield away from the roller. Additionally they increase the space between the core and the shield to leave more space for hair to be wound around the roller. The leg 44 extends along the outer peripheral surface of the layer 32 on the shield 28. Since the rims 22 and 24 are identical, the leg 42 on clip 40 may extend through an opening 26 in either rim.

Any convenient suitable source of low pressure steam may be utilized. The steam is transmitted to the hair curler by means of a conduit 48 terminating in a nozzle 46 and having a selectively actuable device for controlling flow of steam such as valve 50.

The hair curler of the present invention is utilized as follows:

Hair 52 is wound around the pad 20. See FIGS. 2 and 3. Thereafter, the shield 28 is applied to the core having hair wound therearound due to the flexibility of the jaws 36 and 38 which are capable of being spread apart. The clip 40 is then applied to maintain the assembled relationship whereby the shield 28 will be between the core and the scalp.

Thereafter, nozzle 46 will be inserted into the tapered end of the core 12. Manipulation of the valve 50 will permit steam to be injected through the core 12. Steam is injected for a period of approximately 3 seconds. Steam passes radially outwardly through the openings 14, through the porous pad 20, and contacts the hair 52 which is disposed in the gap 54. Gap 54 is between the outer periphery of the pad 20 and the inner peripheral surface of layer 32. The size of the gap 54 may be increased as hair is wound around the pad 20, thereby compressing the pad 20. The hubs 16 and 18 rest on the inner peripheral surface of the spacer members 30 in the assembled relationship of the components of the present invention.

After being subjected to steam for approximately three seconds, the curler may be disassembled. The curling operation is complete. The hair is dry and the curler can be removed. It is not necessary to subject the curled hair to a dryer for long periods of time as has been conventional heretofore. If steam is applied for more than approximately three seconds, there is a tendency for moisture to collect inside the hair curler of the present invention. Small amounts of the moisture will be collected by the pad 20 and retained therein.

Thus, it will be seen that the hair curler of the present invention facilitates curling hair in a very short period of time such as approximately 3 seconds without the necessity of further subjecting the hair to a drying action. At the same time, a finer curl is attained. The components of the hair curler are simple, capable of being mass produced, and can be used professionally or in the home.

The present invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof and, accordingly, reference should be made to the appended claims, rather than to the foregoing specification as indicating the scope of the invention.

I claim:

1. A hair curler for use with a source of steam comprising a hollow perforated core having an opening at one end for the purpose of introducing steam thereinto, a hub at each end of the core, each hub being provided with greater transverse dimensions than the transverse dimensions of the core, a porous pad around the perforated core, an impervious steam shield for protecting the scalp of a wearer, the circumference of said shield being less than 360 degrees, said core being juxtaposed

to said shield with sufficient clearance so that hair can be wound around the pad and be disposed between the pad and the inner surface of the shield, and means for removably coupling the shield to one of said hubs, whereby steam may be introduced into said core by way of said opening and discharged radially therefrom through perforations in the core and through said porous pad.

2. A hair curler in accordance with claim 1 wherein said coupling means includes a discrete clip, said clip extending generally parallel to the axis of said core.

3. A hair curler in accordance with claim 1 wherein said shield includes spaced inner and outer walls connected together adjacent their free edges, the space between said walls being open directly to the atmosphere at the ends of said space.

4. A hair curler in accordance with claim 1 wherein said porous pad is a foam polymeric plastic pad, and said shield being disposed between said hubs.

5. A hair curler for use with a source of steam comprising a hollow perforated core having a steam inlet opening at one end, a steam impervious shield for protecting the scalp of a wearer, said shield being hollow and generally semi-circular in cross-section, said hollow shield having spaced inner and outer generally semi-circular walls connected together adjacent their free edges, the space between said walls being open directly to the atmosphere by way of at least one open end of said space, said core being juxtaposed to the surface of the inner wall of said shield with sufficient clearance so that hair can be wound around the core and be disposed between the core and the inner wall of said shield, and means for removably coupling the shield to said core, whereby steam may be introduced into said core by way of the inlet opening and discharged radially from the core by way of said perforations in the core.

6. A hair curler in accordance with claim 5 including a foam polymeric plastic pad which is porous to steam, said pad surrounding said perforated core and being spaced from said inner wall of the shield.

7. A hair curler in accordance with claim 5 including a hub at each end of the core, each hub having a greater transverse dimension than the dimensions of the core, each hub engaging the inner surface of the inner wall of said shield, and said coupling means interconnecting said shield with at least one of said hubs.

8. A hair curler in accordance with claim 5 including a hub at each end of the core, each hub having a radially outwardly directed rim, the radius of each rim corresponding generally to the radius of the outer wall of the shield.

9. A hair curler in accordance with claim 8 wherein at least one of said rims has an opening aligned with an opening in the shield, said coupling means extending through said aligned openings.

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