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E. M. GRANDINETTI

3,473,005

HAIR ROLLER HEATING APPARATUS

Filed Feb. 9, 1967

3 Sheets-Sheet 1

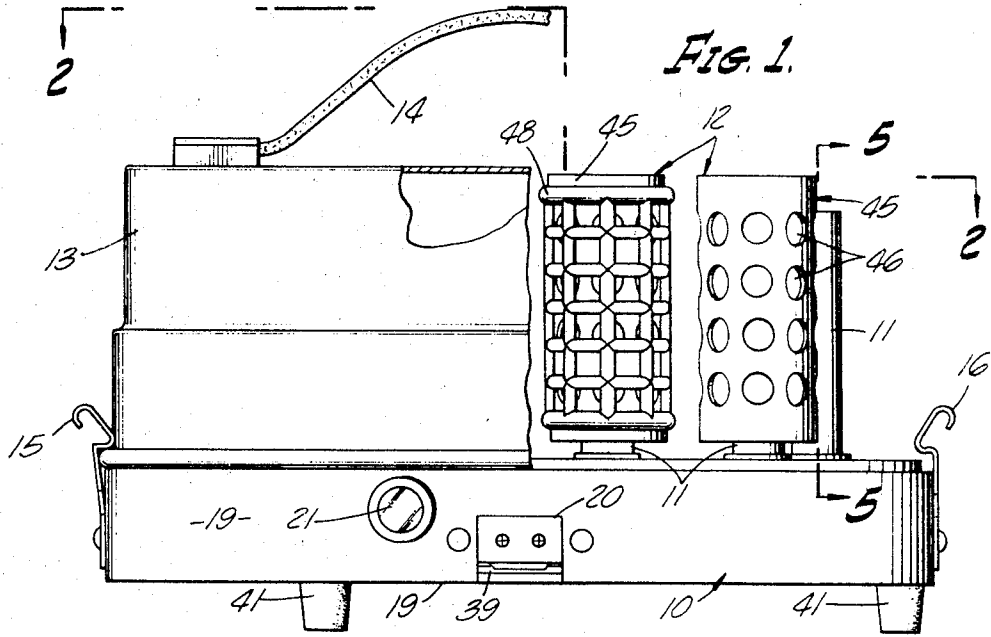


Fig. 1.

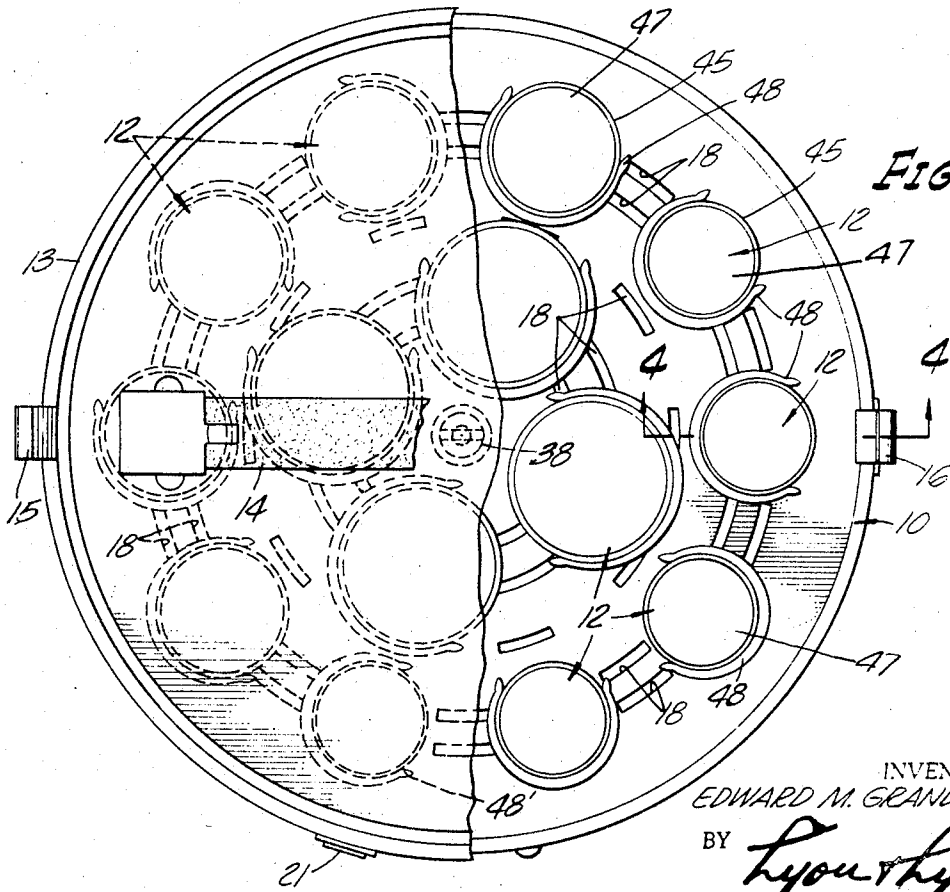


FIG. 2.

INVENTOR
EDWARD M. GRANDINETTI

BY *Hyoun Hyoun*

ATTORNEYS

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FIG. 7.

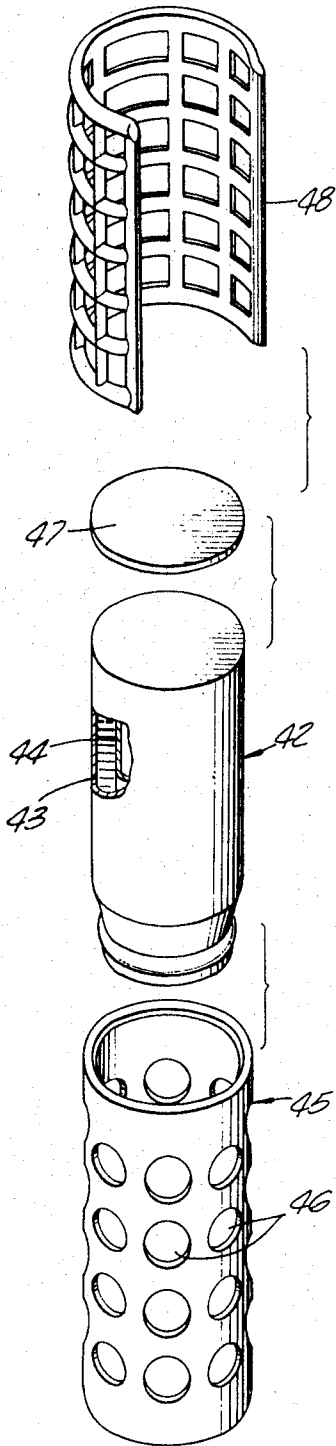
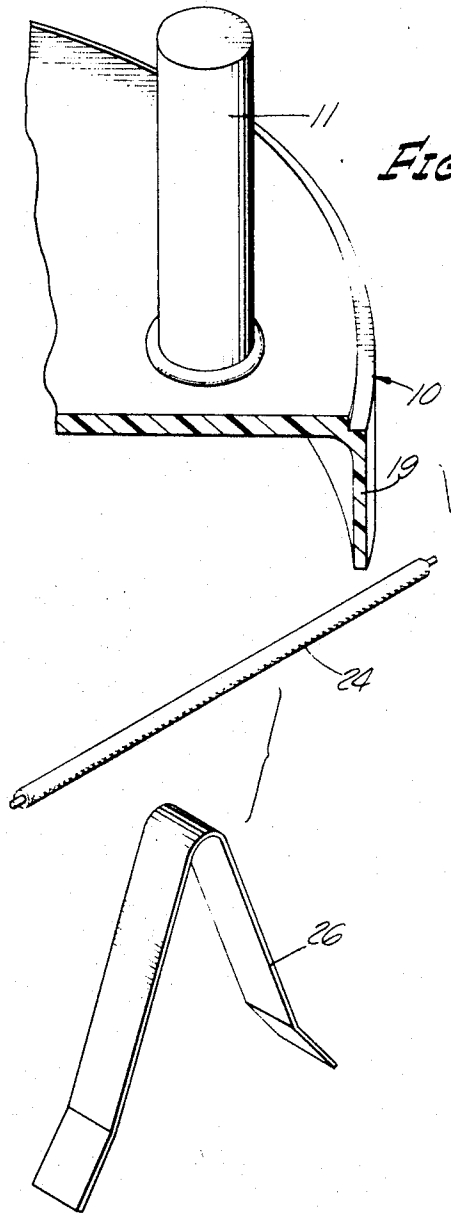


FIG. 6.



INVENTOR
EDWARD M. GRANDINETTI

BY

Lyon Lyon
ATTORNEYS

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3,473,005

HAIR ROLLER HEATING APPARATUS

Edward M. Grandinetti, Lynwood, Calif., assignor, by mesne assignments, to Clairol Incorporated, New York, N.Y., a corporation of Delaware

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4 Claims

ABSTRACT OF THE DISCLOSURE

Hair roller apparatus including a base having a number of upstanding peg members with clip members retaining a heating element or elements in a good heat conductivity relationship within the peg members. A number of separable hair rollers are mounted on the peg members to enable the rollers to be heated.

This invention relates to heated hair rollers and more particularly to an improved apparatus for heating such rollers.

Over the years various types of hair curlers and rollers have been devised. Some devices of this nature employ a heated plate having a plurality of pegs projecting upwardly therefrom. Hair rollers are positioned on the pegs which in turn transfer heat to the rollers. The heated rollers then are removed and the hair is rolled thereon to form curls. One particular objection to this type device is the high electrical power requirement thereof because the entire plate is heated thereby causing a substantial heat loss by radiation to the surrounding air rather than concentrating the heat at the pegs.

It is accordingly an object of the present invention to provide an improved heating apparatus for hair rollers.

It is an additional object of this invention to provide an improved heating apparatus for hair rollers wherein a plurality of peg members have a heating element retained therein in a novel manner for providing good heat conductivity to the peg members.

A further object of this invention is to provide a heating apparatus for hair rollers including an inexpensive arrangement for providing good heat conductivity between a heating element and a roller supporting peg member.

These and other objects and features of this invention will be better understood upon a consideration of the following description taken in conjunction with the drawings in which:

FIGURE 1 is a side view, partially in section, of a hair roller heating apparatus according to the invention;

FIGURE 2 is a top view taken along a line 2-2 of FIGURE 1;

FIGURE 3 is a bottom view illustrating the manner in which heating elements are disposed within the heating apparatus according to the invention;

FIGURE 4 is a cross-sectional view taken along a line 4-4 of FIGURE 2.

FIGURE 5 is a cross-sectional view taken along a line 5-5 of FIGURE 1 and illustrates the manner in which a heating element is retained within a peg member;

FIGURE 6 is an exploded perspective view of a heating element and clip used for retaining the heating element within a peg member; and

FIGURE 7 is an exploded perspective view of a hair roller and clamp.

Referring now to the drawings, FIGURES 1 through 3 illustrate respective side, top and bottom views of a hair roller heating apparatus according to the present invention. The apparatus includes a base 10 having a plurality of hollow upstanding peg members 11 upon

which rollers 12 are removably disposed. The base 10 may be molded of a plastic material and the peg members 11 preferably are formed of metal, such as aluminum. A cover 13 which has a handle 14 affixed thereto may be clipped to the base 10 by spring clips 15 and 16 when the apparatus is not in use. As will appear subsequently, each of the peg members 11 includes electrical heating means therein for heating the rollers 12.

The base 10 includes a plurality of spaced apertures 10 within which the peg members 11 are securely retained. This may be simply accomplished by flanging the lower end of the peg members as best seen in FIGURES 4 and 5. Ventilation apertures 18 (note FIGURES 2 and 3) are provided in the base 10. The base 10 further includes a skirt 19 having an A.C. male electrical connector 20 and a pilot light 21 secured thereto. Two strings of rope heaters 23 and 24 are connected in parallel with each other and through a thermostat 25 to the plug 20, and the pilot light 21 is connected across the terminals of the thermostat.

According to a principal feature of the present invention, the rope heaters extend into each of the peg members 11, and are maintained in a good heat conductivity relationship with the internal wall thereof (note FIGURE 5) by means of a spring clip 26. The rope heaters 23 and 24 have an exterior insulation of fabric and are relatively flexible. The spring clips 26 may be formed of spring steel and, in addition to retaining the heaters within the peg members 11, they also may be used for inserting the heaters into the peg members during assembly of the heating apparatus.

One conductor of the A.C. connector 20 is connected to a terminal 30 of the thermostat 25, and the other terminal 31 of the thermostat is connected to the ends 32 and 33 of the rope heaters 23 and 24. The remaining ends 34 and 35 of the heaters are connected to the other terminal of the connector 20. A removable line cord (not shown) is coupled between the connector 20 and a suitable wall receptacle. The thermostat 25 is mounted on a metal plate 37 which is affixed to a pair of peg members 11A and 11B in a heat conductive relationship to ensure proper operation of the thermostat. As will be apparent to those skilled in the art, the thermostat 25 operates to switch the current through the heaters 23 and 24 on and off to maintain the desired heating of the peg members 11. When the heaters are first energized, the thermostat remains closed until a predetermined heat level is reached, after which the thermostat opens thereby energizing the pilot light 21.

A stud 38 extends downwardly from the base 10 and is threaded for enabling a bottom cover 39 to be attached to the bottom of the heating apparatus. Spacers 40 provide backup surfaces for the cover 39 and prevent it from bearing against the electrical components within the base. A plurality of legs 41 extend downwardly from the base 10, and support the heating apparatus above a surface upon which it is placed and allow ventilation air to flow under the base and up through the ventilation apertures 18. Although each of the rope heaters 23 and 24 is a continuous heating element, the heat loss which occurs from the heaters between peg members 11 is relatively small in comparison to the good heat transfer afforded between the heaters and the interior walls of the peg members. The small heat loss between peg members is beneficially used by allowing a continual movement of heated air upward through the ventilation apertures 18 past the rollers 12 which thus reduces the heat loss from the rollers by convection.

Each of the rollers 12 includes a heat retaining body 42 which, for example, may be a container having double walls 43 and 44 with a material, such as paraffin, therein

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which aids in retaining heat. The walls 43 and 44 are made of metal, such as aluminum, and are sealed together at the bottom thereof. The member 42 is mounted within a cylindrical cover 45 which may be formed of plastic. The hair is rolled onto the cover 45 which transfers heat from the body 42 by conduction and by radiation through perforations 46. A cap 47 is press-fit into the top of the cover 45 to retain the body 42 therein. A clamp 48 is provided for each roller and serves to maintain the rolled hair on the roller in a conventional manner. Different size rollers are provided as can be seen in FIGURE 2 for providing both tight and loose curls.

The present embodiment of this invention is to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description, and all changes which come within the meaning and range of equivalency of the claims therefore are intended to be embraced therein.

What is claimed is:

1. An apparatus for heating hair rollers comprising:
 - a base,
 - a plurality of peg means supported on said base for receiving and heating a plurality of hair rollers, each of said peg means including a hollow elongated member,
 - heating means including a rope heater, said rope heater extending into said plurality of hollow elongated members, and
 - spring clip means retaining said rope heater against the inner wall of said hollow elongated members to maintain a good heat conductivity relationship between said heaters and said peg means.
2. The apparatus of claim 1 wherein:
 - said rope heater is strung successively between a plurality of said members and extends into each of said members substantially co-extensive with the internal length thereof, and
 - said spring clip means comprising a spring steel clip inserted within each of said plurality of members and bearing against the portion of the rope heater therein to maintain the portions of the rope heaters within the members in abutment with a substantial lineal portion of the inner walls of respective members.
3. An apparatus for heating hair rollers comprising:
 - a base having first and second plurality of apertures therein,

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a plurality of peg means coupled with said base respectively at said first plurality of apertures, each of said peg means including an elongated member having an opening therein communicating through respective first apertures and being closed at the second ends thereof, said peg means serving to support and conduct heat to respective hair rollers adapted to be positioned thereon,

flexible heating means including a rope heater strung successively between said plurality of peg means extending through said first plurality of apertures into each of said peg means for heating said peg means, a portion of said heating means in each of said peg means extending into each of said peg means substantially coextensive with the internal length thereof and substantially to the closed end thereof, and

spring clip means retaining said portions of said heating means in a good heat conductivity relationship within respective peg means, said clip means comprising a spring steel clip inserted within each of said peg means and bearing against the portion of the heating means therein to retain said portion of said heating means in abutment with a substantial lineal portion of the interior walls of respective peg means.

4. An apparatus as in claim 3 wherein a plurality of hair rollers are mounted on said plurality of peg means, and said second plurality of apertures provide a secondary heat flow path from said heating means past the exterior of said rollers.

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ANTHONY BARTIS, Primary Examiner

U.S. Cl. X.R.

132—33; 219—242, 523, 534, 542