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W. G. SHELTON

HAIR CURLING APPARATUS

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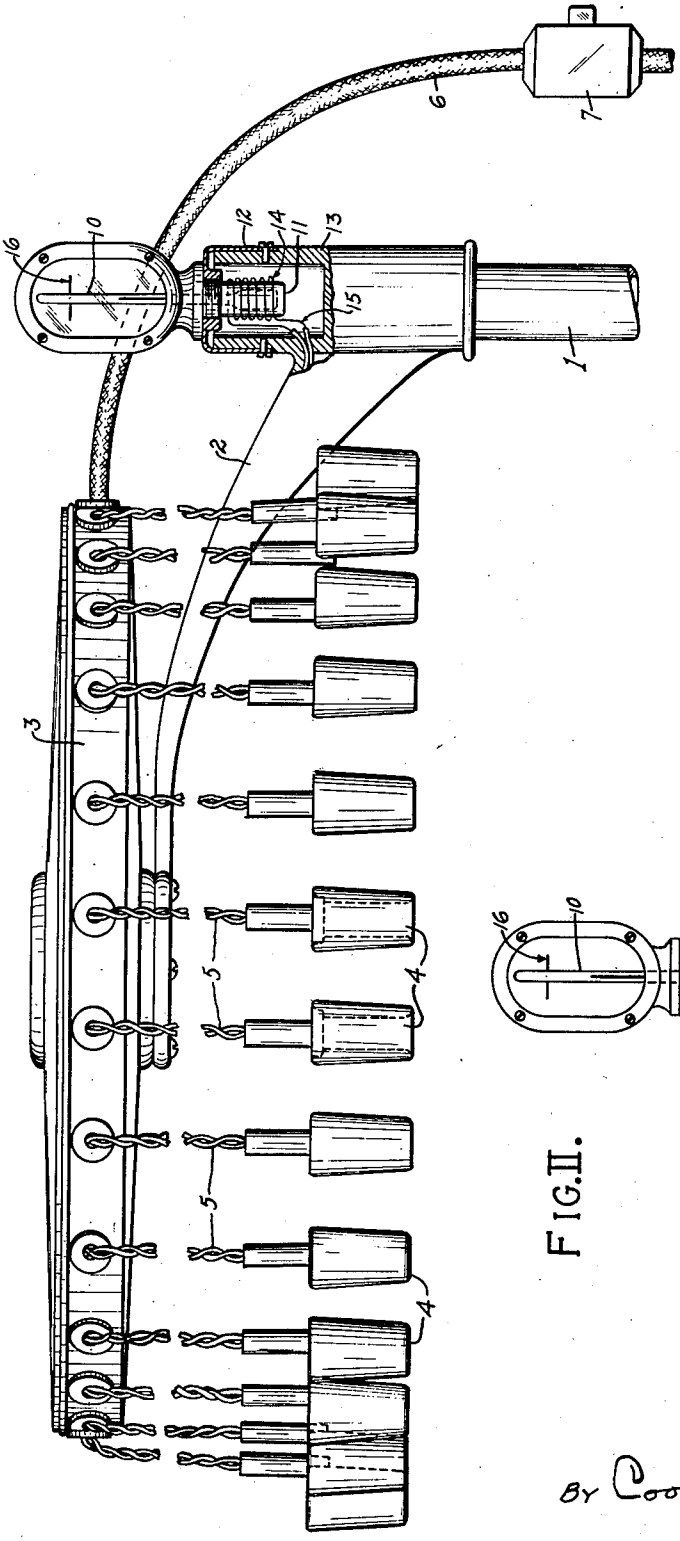


FIG. I.

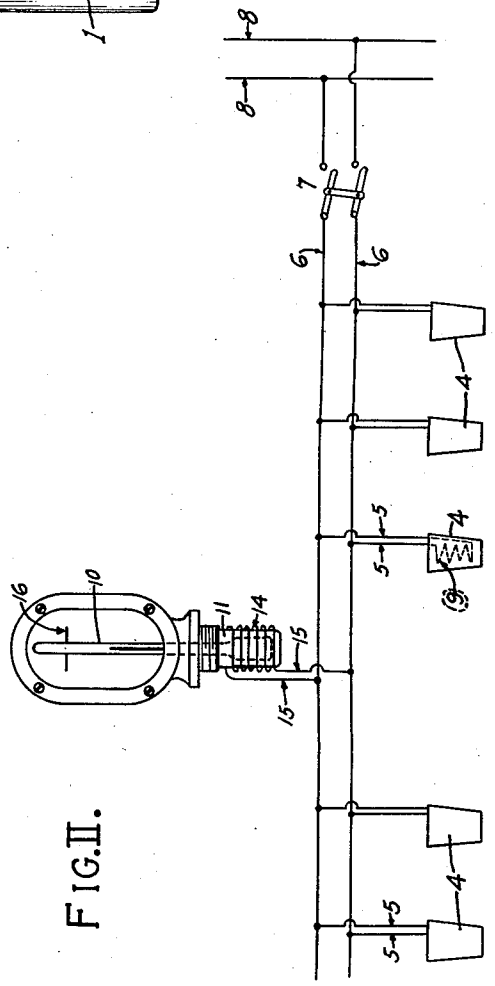


FIG. II.

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HAIR-CURLING APPARATUS.

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This invention relates to a hair-curling apparatus, and more particularly to an apparatus wherein the curled hair is heated. The main object is to produce a predetermined temperature condition at the curled hair without incurring the usual danger of overheating the hair.

Prior to this invention, permanent wave apparatus have been provided with electrical heating elements adapted to surround the curled hair. In using an apparatus of this kind, the operator winds the hair around curling rods and then wraps moist cloth around the curled hair. Numerous electrical heating elements are applied to the head so as to surround each wrapped curl, and the current is then turned on for various periods depending upon the judgment of the operator.

Actual experience has shown that the strength of the electric current is not uniform, and even in a single apparatus the current may vary considerably every few hours due to variations in the output at the generating station, as well as variations in the use of current from the main line supplying any given apparatus. Consequently, no definite time can be fixed as a proper period for heating the curled hair.

In the ordinary practice, an operator having more or less skill will observe the action of the heat on the material surrounding the hair, as well as the odor from the heated material, and with these rather uncertain indications the operator will determine the length of the heating period. Obviously, different operators seeking the same result would not obtain the same heating period, and a single operator cannot obtain uniform results in following this old practice. Moreover, there is great danger of everheating the hair or head, and a cautious operator will usually fail to obtain the most effective temperature.

One of my objects is to obtain predetermined results regardless of variations in the transmission of heat to the hair. A further object is to eliminate or minimize the danger of overheating the hair.

With the foregoing and other objects in view, the invention comprises the novel construction, combination and arrangement of parts hereinafter more specifically described and illustrated in the accompanying drawings, wherein is shown the preferred embodiment of the invention. However, it is to be understood that the invention comprehends changes, variations and modifications which come within the scope of the claims hereunto appended.

As an illustration of a simple form of the invention, I will hereafter describe an electric switch to control the transmission of current to a group of heating elements adapted to surround the curled hair, and a heat-responsive member associated with the switch to aid in determining the length of the heating period. This heat-responsive member is preferably actuated by a separate heating element electrically connected to the elements at the curled hair.

More specifically stated, the heat-responsive member may be a thermometer, or the like, heated by an auxiliary heating element electrically connected to the main heating elements at the hair, so as to advise the operator of the temperature condition at the main heating elements. In this simple form of the invention, the operator will open the switch by hand when a predetermined temperature is shown by the thermometer.

The operators understand that different kinds of hair require heat treatments for different periods, but in all cases an operator will usually try to first obtain the same temperature condition at the hair and then operate the switch to discontinue the flow of current. The hot elements are then allowed to remain on the hair for varying periods depending upon the quality of the hair. These results can be effectively accomplished in the device herein described by opening the switch in response to the indication of a fixed predetermined temperature, and then allowing the heating elements to remain on the head for the desired additional period of time.

Fig. I is a side elevation, partly in section, illustrating the upper portion of a permanent wave apparatus equipped with a device embodying the features of this invention.

Fig. II is a diagram showing some of the electrical elements, including an auxiliary heating element associated with a heat-responsive device, and a switch to be operated in response to the action of said device.

The apparatus comprises a vertical post 1 provided at its upper end with an arm 2 supporting a housing 3 from which a group of heating elements 4 are suspended by means of insulated wires 5, portions of the wires

being broken away in Fig. I. The wires 5 are connected to a pair of feed wires 6 as shown in Fig. II, and a switch 7 may be opened and closed by hand to control the delivery of current from the main conductors 8 to the wires 6.

Each heating element 4 may be in the form of a tube, as suggested by dotted lines in Fig. I, containing a coil of resistance wire 9 which appears in Fig. II. The coil 9 is connected to wires 5.

The tubular elements 4 may be arranged over the head of a person in the usual manner to surround the curled hair. The switch 7 is then closed until a predetermined temperature is obtained at the heating elements 4.

To illustrate a suitable heat-responsive device, I have shown a thermometer comprising a glass tube 10 with a bulb at its lower end enclosed by a tube 11, the latter being screwed into a cap 12 on the upper end of a hollow member 13 at the upper end of the vertical post 1. This heat-responsive device is actuated through the medium of an auxiliary heating element, which may be in the form of a coil of resistance wire 14 surrounding the tube 11 and connected by means of wires 15 to the feed wires 6. The auxiliary heating element 14 is thus electrically connected to the main heating elements, and it may be located at any convenient point remote from the main elements.

The resistance of the auxiliary heating element 14 may be more or less than the resistance of the main heating elements, for the desired relationship is established by action of the thermometer 10. When the indicating fluid in the thermometer rises to the plane of a line 16, the operator will understand that the flow of current to the heating elements should be discontinued, and the switch 7 is then opened.

I claim:

1. In a hair-curling apparatus, an electrical heating element whereby the curled hair is heated, and a temperature indicator comprising a second electrical heating element electrically connected to the first mentioned heating element, and a heat-responsive indicator associated with said second heating element to indicate a predetermined temperature condition at the curled hair.

2. In a hair-curling apparatus, a group of electrical heating elements whereby the curled hair is heated, and means for indicating a predetermined temperature condition at the curled hair, said means including a heat-responsive indicating member, and an electrical heating element whereby said member is actuated, the last mentioned heating element being electrically connected to said group of heating elements.

3. In a hair-curling apparatus, an electrical heating element whereby the curled hair is heated, means for obtaining a predetermined temperature condition at the curled hair, said means including a switch to control the delivery of current to said heating element, a heat-responsive member associated with said switch, and an electrical heating element whereby said heat-responsive member is actuated, the last mentioned heating element being electrically connected to the first mentioned heating element.

4. In a permanent wave apparatus, a group of electrical heating elements adapted to surround the curled hair, means for indicating a predetermined temperature condition at the curled hair, said means including a heat-responsive indicating member, an electrical heating element associated directly with said indicating member and electrically connected to said group of heating elements, and a manually operated switch controlling the delivery of current to all of said heating elements.

In testimony that I claim the foregoing I hereunto affix my signature.

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