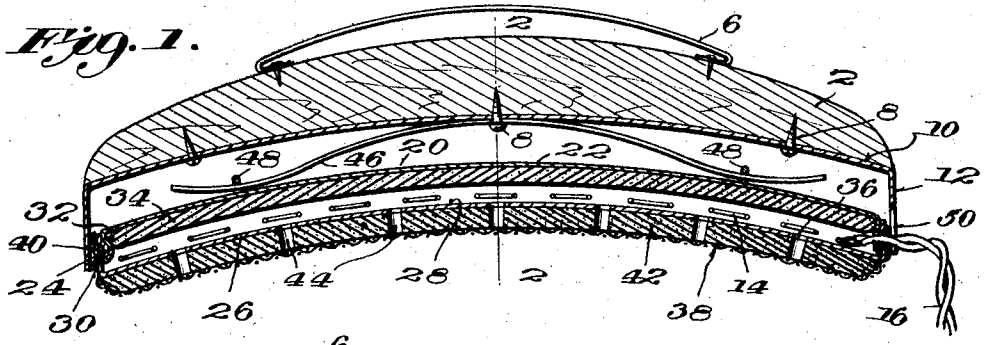
Sept. 20, 1927. 1,642,888

M. L. PERRY

HAIR STRAIGHTENING DEVICE

Filed Sept. 20, 1926

Fig. 1.



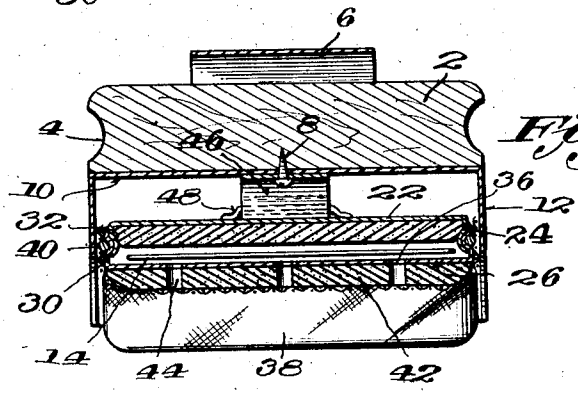


Fig. 2.



Fig. 3.

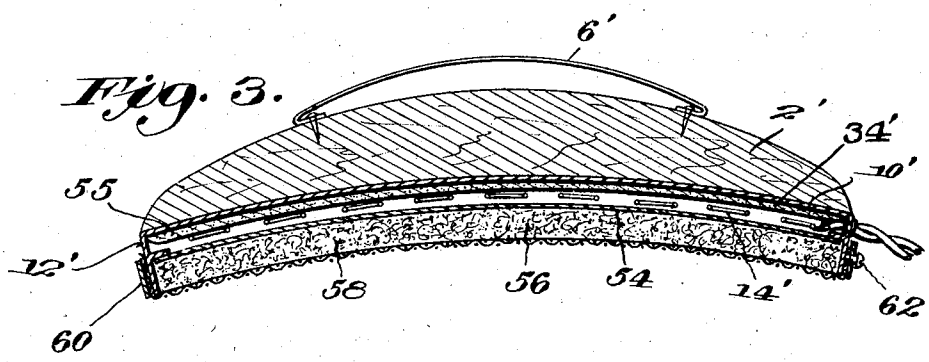
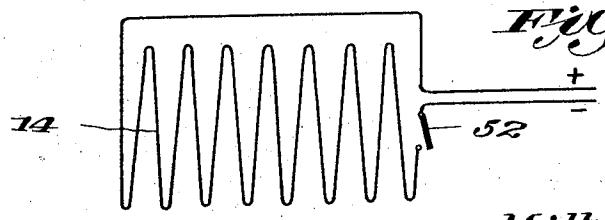


Fig. 4.



Inventor

Milton L Perry,

By Conway V. Coe

Attorney

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UNITED STATES PATENT OFFICE.

MILTON L. PERRY, OF WASHINGTON, DISTRICT OF COLUMBIA.

HAIR-STRAIGHTENING DEVICE.

Application filed September 20, 1926. Serial No. 136,563.

This invention relates to a hair treating device, and has particular reference to a device for treating and straightening curly and kinky hair.

Prior to the present invention, various attempts had been made to develop processes and apparatus for removing the curl and kink from the hair of human beings, but these previous efforts have proven unsatisfactory, and, as a whole, have failed to impress the commercial field due to certain well recognized deficiencies and drawbacks. Among the latter may be mentioned the frequent necessity of using various hair dressings or preparations to perform or assist in the straightening process. The use of such dressings or chemical preparations is objectionable in that injurious effects on the hair and scalp are sometimes recorded as a result; the cost of the treatment is substantial; the hair is plastered to the scalp in an unnatural manner; and finally, the results are merely temporary, and the kinks and curl quickly reappear.

The prior apparatus designed to straighten the hair both with and without the assistance of hair preparations is likewise deficient, being inefficient in use, expensive to manufacture, cumbersome in manipulation, and frequently injurious to the hair and scalp.

A general object of the present invention is to provide a hair straightening device of improved construction, in which the disadvantages referred to are eliminated. To this end, the invention contemplates the provision of a hair treating device which is adapted to straighten the hair by the simultaneous application of heat and pressure thereon, and which does not require for its successful operation the use of specially prepared hair fluids for pasting the hair in a flat condition against the scalp. In general form and size, the improved device is somewhat similar to the ordinary hair brush and can be manipulated quite as readily as the latter. The device is provided with a heating element to generate and transmit heat to the hair while the device is being used, means being provided to shield the hair from direct contact with the heating element so as to eliminate burning and injuring the hair.

For a more complete understanding of this invention, together with further objects and advantageous details and combination of parts, reference may be had to the accompanying drawings illustrating an embodiment thereof, in which

Fig. 1 is a longitudinal section of the improved device;

Fig. 2 is a transverse vertical section along line 2—2 of Fig. 1;

Fig. 3 is a section through a modified form of the invention; and

Fig. 4 is a diagrammatic illustration of the heating element.

Referring more particularly to the drawings, the reference character 2 indicates a base or back preferably formed from a non-metallic material such as wood, or a phenol condensation product. The base 2 is generally similar in form and shape to the body of the usual hair brush, and serves both as a handle for manipulating the device and as a carrier or support for the other elements in the device. Each side of the base is provided with a finger groove 4 to afford a convenient grip by the hand. A flexible strap 6 is secured upon the top of the base to encircle the operator's hand and hold the device thereon in a manner clearly understood.

Attached to the bottom of the base 2 in any suitable manner, such as by means of screws 8, is a metallic plate 10, the latter being formed with a downwardly extending peripheral flange 12.

The reference character 14 denotes a heating element comprising an electric coil, the terminals of which are connected to an electric cord 16 provided with the usual plug 18 for establishing connection with any convenient source of electric power. The heating coil 14 is enclosed within a metallic casing composed of an upper member 20 having a top 22, and a downwardly extending side flange 24, and a lower member 26 having a bottom 28, and an upwardly extending side wall or flange 30. The side flange of the upper member is received within the flange of the lower member, and the parts are detachably retained in this assembled position by means of the rim and groove connection 32, illustrated clearly in Figs. 1 and 2. Interposed between the heating coil 14 and the top 22 of the inclosing casing, is an insulating pad or blank 34 of any suitable material, such as asbestos or the like, the purpose of which is to prevent the passage of heat upwardly from the coils, and thus protect the base of the device and the hand of the operator. The bottom of

the heating casing is formed with a plurality of perforations 36 which permit the escape of the heat toward the bottom of the device. A cover 38, constituting the hair engaging or working surface of the device, is tightly stretched across the bottom. The cover 38 is formed of any durable, flexible material, such as duck or canvas. The cover is preferably detachably connected to the heating unit by means of a resilient ring 40 adapted to clamp the edges of the cover within the groove formed upon the side of the heating casing. The cover is thus securely held in position, but can be readily removed and replaced when the occasion demands. A sheet 42 of asbestos or similar material is interposed between the flexible cover and the bottom of the casing, in order to shield and protect the former from direct contact with the highly heated metallic casing. As illustrated, the insulating layer 42 may be provided with openings 44 which register with the perforation in the coil casing to permit the flow of heat to the outer cover. It has been found, however, that the provision of openings through the insulating layer is not absolutely necessary to the successful operation of the device, as sufficient heat will pass through the layer in the absence of openings, if the layer is not too thick and compact. In addition, if the insulating layer is made of asbestos, its presence contributes towards the comfort of the device by providing a suitable backing for the cover and head to bear against.

The casing inclosing the heating coil and the head-engaging surface are yieldingly mounted upon the base 2, in such a manner as to permit a slight relative movement therebetween, and thereby afford additional comfort in the use of the device. As shown, the heating casing fits telescopically within the depending side flange 12, previously described as being mounted upon the base 2. A relatively heavy plate spring 46 is secured to the bottom of the base in any desired manner, such, for example, as by means of one of the screws 8 which are used to hold the plate 10 in position. The free ends of the spring 46 are slidably received within U-shaped straps 48 mounted upon the top of the heating unit. It will be apparent that this connection serves to retain the parts in assembled relation as well as permits the heating unit to move a limited amount toward the base against the action of the spring 46. It should be understood that the spring is of sufficient strength and weight to offer a material resistance to the upward movement of the lower section, as only a slight relative movement between the parts is necessary to absorb or temper the blows resulting from the impact between the head of the person being treated and the device, during the normal use of the latter.

The flange 12 is provided with a vertical slot 50 for the entrance of the electric cord 16, the slot being sufficiently elongated so as not to interfere with the relative movement between the sections of the device. In order to automatically control the heating coil and prevent the device from becoming so hot as to injure the hair, a suitable circuit breaking switch of the heat responsive type, such as a thermostat 52 (Fig. 4), may be provided in the circuit of the heating coil 14. The construction of thermostatic or heat responsive switches is well known, and since this element does not constitute an essential feature of the present invention, it will not be described in detail herein.

The modification of the invention illustrated in Fig. 3 will now be described. The heating coil 14′ is fixed to the base 2′ and insulated therefrom by the upper insulating element 34′. Beneath the coil is arranged a perforated metallic plate 54 and a layer of fiber asbestos 56. Inward movement of the plate 54 is limited by lugs 55, formed upon the inner surface of the side flange 12′. A flexible cover is tightly stretched over the bottom of the device and is clamped against the outer face of the flange 12′ by the encircling ring or band 60. The band 60 may be securely fixed in position by means of adjusting screws 62. The fiber asbestos layer affords a slightly yielding backing for the cover and the necessity for a spring connection between the parts is eliminated.

When used, the device is heated by the electric coil, and while hot, is rubbed against the hair of the person being treated, sufficient pressure being applied to flatten and iron the hair. The simultaneous application of both heat and pressure has proven highly satisfactory in removing curls and kinks from the hair, and, ordinarily, is effective without the aid of special hair preparations. The device is simple in construction, inexpensive to manufacture, efficient in use, and does not produce any injurious effects on the hair and scalp.

Having described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. A hair treating device comprising a base, a hair-engaging member yieldingly mounted upon said base, and a heating element located within said hair-engaging member.

2. A hair treating device comprising a base adapted to serve as a handle, a hair-engaging member mounted upon said base for relative movement thereto, and a heating element located within said hair-engaging member.

3. A device for straightening hair comprising a base, a flexible hair-engaging surface, a heating coil located between said surface and said base, the said surface and said

coil being spaced from each other and from the base, and a yielding means for mounting the hair-engaging surface on said base.

4. A hair treating device comprising a base adapted to serve as a handle having a peripheral flanged member fastened thereto, a hair-engaging member to be located upon the base within said flange member having a hair-engaging surface, a heating element located between said hair-engaging surface and said base, and insulating pads interposed between said heating element and said hair-engaging surface and between said heating element and said base.

5. A hair treating device comprising a base, a container yieldingly mounted upon the base and spaced therefrom, a heating element located within the container, said container comprising an upper and lower section detachably connected, an insulating member interposed between the heating member and the upper section of the container, a hair-engaging surface, and an insulating member located between the lower section of the container and the hair-engaging surface.

MILTON L. PERRY.