April 16, 1935. E. O. FREDERICS 1,998,229

HAIR WAVING HEATER

Filed March 30, 1933

Fig. 1.

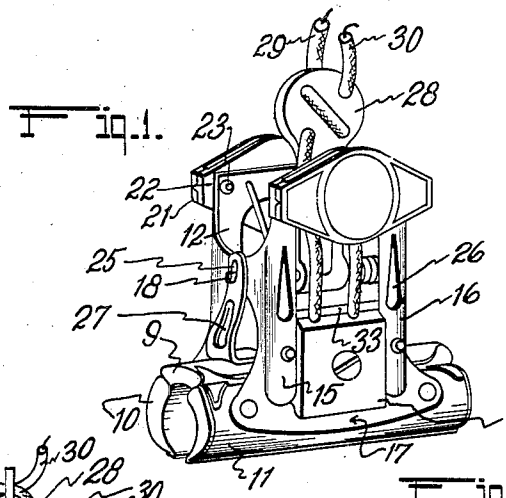


Fig. 2.

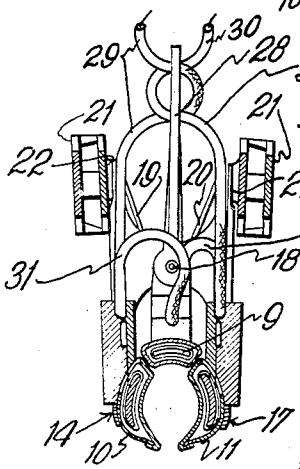


Fig. 4.

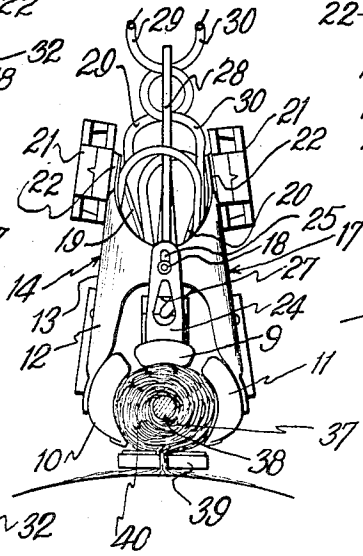


Fig. 3.

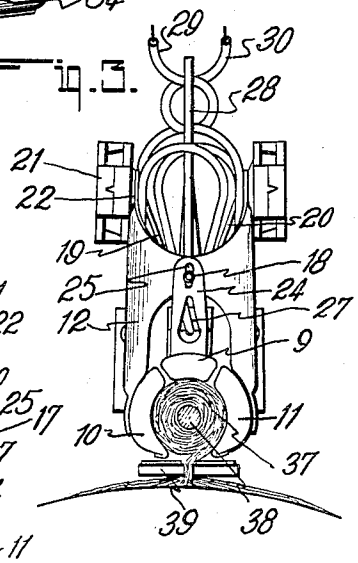


Fig. 5.

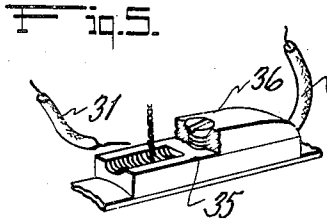
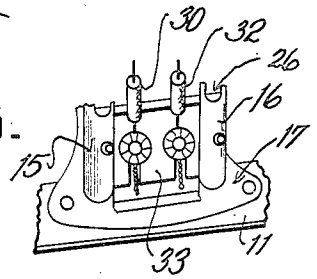


Fig. 6.



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1,998,229

HAIR WAVING HEATER

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Application March 30, 1933, Serial No. 663,517

12 Claims. (Cl. 219—24)

This invention relates to heating devices for use in hair-waving operations and more particularly to heating devices which may be clamped about a winding of hair on a curler.

In general, it is an object of the invention to provide a device of the character indicated which will efficiently and economically serve the purposes for which it is intended, which can be readily manufactured and assembled, and which can be expeditiously, conveniently and safely manipulated.

Another object is the provision of a heating device which will effectively cover a particularly large proportion of the surface of a winding of hair.

A further object is the provision of a heating device which is readily and effectively utilizable upon the windings of hair of varying diameters.

Another object is to provide an electrical hair-waving heater of an improved nature and having low electrical requirements.

Other objects of the invention will in part be obvious and will in part appear hereinafter.

The invention accordingly comprises an article of manufacture possessing the features, properties, and the relation of elements which will be exemplified in the article hereinafter described and the scope of the application of which will be indicated in the claims.

For a fuller understanding of the nature and objects of the invention reference should be had to the following detailed description taken in connection with the accompanying drawing, in which:

Figure 1 is a perspective view of a hair-waving heater embodying the invention;

Fig. 2 is a transverse sectional view along the line 2—2 in Fig. 1;

Fig. 3 is an end view of the device in position about a winding of hair;

Fig. 4 is a similar view of the device in position about a winding of hair of larger diameter;

Fig. 5 is a detail view, partly broken away, of the terminal block for the central heating member; and

Fig. 6 is a similar view of the terminal block of one of the lateral heating members.

In the waving of hair wound upon a curler as by the croquignole process, it is customary to place against the winding of hair a heating device, such for instance as shown in my co-pending applications, Serial No. 340,095, filed February 15, 1929, and Serial No. 450,894, filed May 9, 1930, wherein constructions utilizing single trough-like heating members are exemplified. Heating devices wherein a pair of oppositely disposed heating members is utilized, have also been employed.

Difficulties are present, however, in the use of such types of construction. Among such difficulties are the restrictions in the size of the heating members due to the necessity for easy manipulation, which restriction reduces the smoothness in the waving effect, and also requires the use of an excessive voltage for the heating of the electrical heating elements commonly contained therein, the lack of adaptability of such heaters for windings of hair of various sizes, and the inability of such heaters to provide heat substantially uniformly to the winding of hair. With a view to avoiding the foregoing and other difficulties the present invention contemplates the provision of a heater embodying three or more heater members. By the provision of a multiplicity of heater members, the side members may be readily spread without leaving too great a gap between their outer edges, and windings of various sizes may be surrounded in a particularly complete and effective manner.

In its more specific aspects, the invention also contemplates the provision of a particularly simple structure which may be readily manipulated.

One form of heater exemplifying the invention is shown in the drawing. The exemplified construction includes a central trough-like heating member 9 and a pair of laterally disposed curved heating members 10 and 11. Each heating member comprises a metal case enclosing an electrical heating element in a manner well known in the art. The heating member 10 is carried by arms 12 and 13 forming parts of a metallic plate 14, and the heating member 11 is carried by arms 15 and 16 forming parts of a metallic plate 17. The arms 12, 13, 15 and 16 which are all mounted on a centrally disposed pivot pin 18, and the heating members 10 and 11 are normally forced toward each other by means of coil springs 19 and 20 encircling the pivot pin and each anchored to the outer portion of plates 14 and 17. At their outer ends these plates are provided with manipulating handles of the character exemplified in my said co-pending application Serial No. 450,894, and comprising front and rear plates 21 and 22, respectively, formed of insulating material and spaced from each other throughout the major portion of their extent. Each rear plate 22 is attached to the metallic plate 14 or 17, as the case may be, only at points, indicated at 23, where it is spaced from the plate

22, and is otherwise spaced from the metallic plate.

The centrally disposed heating member 9 is likewise supported from the pivot pin 18 in the present instance, arms 24 being provided for this purpose. In order that the heating member 9 may be loosely supported, the openings in the arms 24 which fit over the pivot pins are in the form of slots as indicated at 25 permitting a small inward and outward movement of the heating member 9.

In order to permit a particularly free circulation of air about the device, openings 26 may be provided in the arms 12, 13, 15 and 16, and openings 27 may be provided in the arms 24. In order to mount the electrical leads for the device, a tether arm 28 is pivoted on the pin 18. Threaded through the tether arm are leads 29 and 30, one of which extends to the heating member 10 and the other to the heating member 11. A lead 31 extends from the heating member 10 to the heating member 9, and another lead 32 extends from the heating member 11 to the heating member 9. A terminal block, as indicated at 33, and a cover member as shown at 34, are provided for the connections to each lateral heating member, and a terminal block 35 and a cover plate 36 are provided for the central heating member.

It is to be noted that the adjacent edges of each lateral heating member and of the central heating member are so inclined that the lateral members have a wedge action on the central heating member when in contact therewith.

Fig. 3 shows the exemplified heating device in use upon a winding 37 of hair upon a curler 38; a protector clip 39 serving to protect the scalp of the subject.

Fig. 4 shows the same heating device in place upon a winding of hair 40 having a greater periphery.

Since certain changes may be made in the above article and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the following claims are intended to cover all of the generic and specific features of the invention herein described, and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

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

1. A hair waving heater, comprising a pair of lateral heating members, means to mount said heating members for movement toward and away from each other to act as clamps against opposite sides of a winding of hair on a curler, an additional heating member disposed between said clamping members, and means for mounting the last mentioned heating member to permit free inward and outward movement thereof independent of said lateral heating members, said mounting means including a radial track and a pivot connection with said track whereby the inward and outward movement is guided while swinging movement of said last-mentioned heating member is permitted.

2. A hair waving heater, comprising a pair of lateral heating members, a pivot pin, means to mount said heating members on said pivot pin for movement generally toward and away from each other to act as clamps against the sides of a winding of hair on a curler, an additional heating member adapted to extend between said clamping members and to lie against the rear of the winding, and means including a slot fitting over said pivot pin for mounting said additional heating member whereby said additional heating element may move radially of the winding so as to readily fit against various sized windings.

3. A hair waving heater, comprising a pair of lateral heating members, means to mount said heating members for movement toward and away from each other to act as clamps against opposite sides of a winding of hair on a curler, an additional heating member disposed between said clamping members, and means for mounting said additional heating member, said mounting means including a slot radial of the winding and a pin in said slot whereby said additional heating member may move radially of the winding so as to readily fit against various sized windings.

4. A hair waving heater, comprising three heating members, one being a centrally disposed trough-like element and the others being curved clamping elements adapted to cooperate with said centrally disposed element to extend about a winding of hair on a curler, a pivot pin, and means to mount each of said heating members on said pin.

5. A hair waving heater, comprising three heating members each having an inner surface which is generally arcuate in cross-section, one being a centrally disposed trough-like element and the others being curved clamping elements adapted to cooperate with said centrally disposed element to extend about a winding of hair on a curler, an electrical connection to one of the clamping members, an electrical connection to the other of the clamping members, an electrical connection from each of the clamping members to the centrally disposed member, a pivot pin, and means to mount each of said heating members on said pin.

6. A hair waving heater, comprising a pair of lateral heating members, means to mount said heating members for movement toward and away from each other to act as clamps against opposite side of a winding of hair on a curler, an additional heating member disposed between said clamping members and adapted to rest on the rear surface of the winding, a pair of supporting arms extending from each of the lateral heating members, electrical heating elements in each of said heating members and means for attaching electrical connections to said lateral heating members and to said additional heating member intermediate said arms.

7. A hair waving heater, comprising a pair of lateral heating members, means to mount said heating members for movement toward and away from each other to act as clamps against opposite sides of a winding of hair on a curler, an additional heating member disposed between said clamping members and adapted to rest on the rear surface of the winding, a pair of supporting arms extending from each of the lateral heating members, and electrical heating elements in each of said heating members, means for attaching electrical connections to said lateral heating members and to said additional heating members intermediate said arms, and an insulating plate covering each of said attaching means.

8. In a hair waving heater of the clamp type, a pair of spreadable inwardly concave heater members, each having an electrical heating element therein and arranged to be spread to have their forward longitudinal edges moved transversely past a winding of hair on a curler, handle means to spread said heater members, resilient means tending to move said heater members together and adapted to press the same against the winding of hair after said movement, the rear edges of said heater members being spaced from each other, and at least one additional inwardly concave heater member arranged to contact with the rear of the winding between the aforesaid members and carrying an independent electrical heating element whereby the rear of the winding is heated.

9. In a hair waving heater of the clamp type, a pair of spreadable inwardly concave heater members, each having an electrical heating element therein and arranged to be spread to have their forward longitudinal edges moved transversely past a winding of hair on a curler, handle means to spread said heater members, resilient means tending to move said heater members together and adapted to press the same against the winding of hair after said movement, the rear edges of said heater members being spaced from each other, at least one additional inwardly concave heater member arranged to contact with the rear of the winding between the aforesaid members and carrying an independent electrical heating element whereby the rear of the winding is heated, a heating-member-supporting portion, means for mounting said spreadable heater members thereon, and a mounting on said supporting member for said additional heater member, said mounting including a radial track, and means slidable therealong for permitting a movement of said additional heater radial of the winding.

10. In a hair waving heater of the clamp type, a pair of spreadable inwardly concave heater members each having an electrical heating element therein and arranged to be spread to have their forward longitudinal edges moved transversely past a winding of hair on a curler, handle means to spread said heater members, resilient means tending to move said heater members together and adapted to press the same against the winding of hair after said movement, the rear edges of said heater members being spaced from each other, at least one additional inwardly concave heater member arranged to contact with the rear of the winding between the aforesaid members and carrying an independent electrical heating element whereby the rear of the winding is heated, a heating-member-supporting portion, means for mounting said spreadable heater members thereon, and means for loosely mounting said additional heater member from said supporting portion, the last-mentioned means including a slot radial of the winding and a pin in said slot.

11. In a hair waving heater of the clamp type, a pair of spreadable inwardly concave heater members, each having an electrical heating element therein and arranged to be spread to have their forward longitudinal edges moved transversely past a winding of hair on a curler, handle means to spread said heater members, resilient means tending to move said heater members together and adapted to press the same against the winding of hair after said movement, the rear edges of said heater members being spaced from each other, and at least one additional inwardly concave heater member arranged to contact with the rear of the winding between the aforesaid members and carrying an independent electrical heating element whereby the rear of the winding is heated, said additional heater member being movably mounted and the adjacent surfaces of said spreadable heater members and said additional heater member being outwardly inclined so that the additional heater member will be pressed radially by the spreadable heater members under the influence of said spring when such action is not prevented by the winding.

12. In a hair waving heater of the clamp type, a pair of heater members each having an electrical heating element therein and a handle for each heater member, a pivot pin intermediate said heater members and said handles, means to mount said heater members on said pivot pin, resilient means tending to move said heater members together and to be compressed by the movement of said handles toward one another, electrical connections to said heater members, a tether arm through which said connections are threaded, said tether arm being swingingly mounted on said pivot pin, and an additional heater member disposed between the aforesaid heater members and also mounted on said pivot pin.

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