Nov. 27, 1928. 1,693,462

J. P. POLNASZEK

WAVING IRON FOR HAIR

Filed May 28, 1927

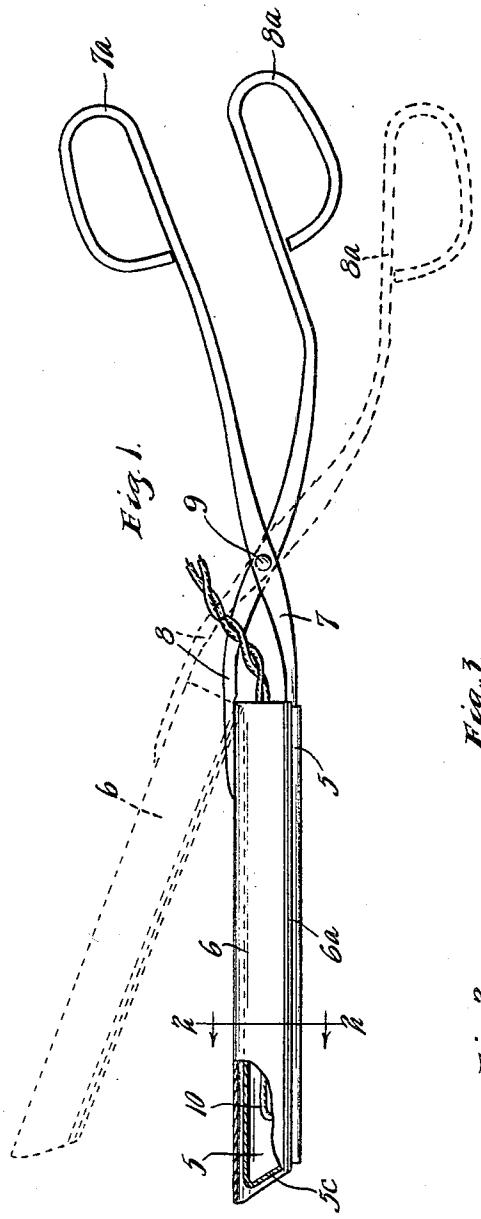


Fig. 1.

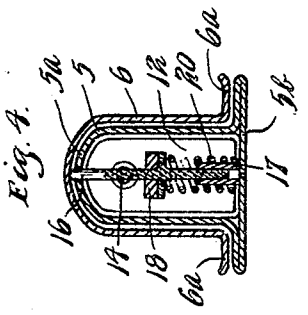


Fig. 4.

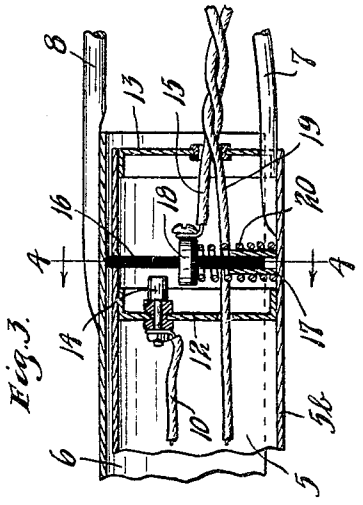


Fig. 3.

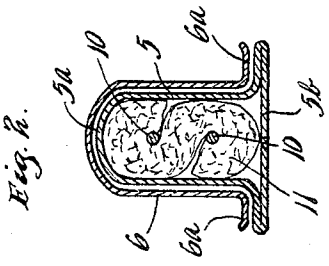


Fig. 2.

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UNITED STATES PATENT OFFICE.

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WAVING IRON FOR HAIR.

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This invention relates to waving irons for hair and especially to electrically heated irons adapted to effect a so-called Marcel wave or human hair.

At the present time Marcel waves are generally formed by clamping a lock of hair between concavo and convex members to effect a semi-circular portion and by then reversing the disposition of the clamping members to treat the immediately adjacent portion of the lock to form a reversibly disposed semi-circular portion completing the wave. Obviously this requires two operations for each wave.

In carrying out the process above outlined the clamping members are usually provided with electrical heating elements connected to a suitable source of electricity and electricity is supplied to the elements while the hair is clamped, thereby often scorching or burning the hair.

It is an object of my invention to provide a simple but highly efficient waving iron which will give ornate, relatively long Marcel waves and which will effect a complete wave with each application thereof to a lock of hair.

It is a further object to provide an efficient hair waving iron having electrically heated co-operating clamping members provided with efficient means for automatically breaking the electric circuit when the clamping elements are closed about a lock of hair thereby preventing the hair from becoming burned or scorched although supplying sufficient heat at the proper temperature to effect the wave.

Another object is to provide an electrical waving iron comprising hinged clamping members provided with a switch normally closing the circuit through the heating element and adapted to be thrown to break said circuit by the inward movement of the clamping members.

These and other objects of the invention will be apparent from the following description made in connection with the accompanying drawings in which like reference characters refer to similar parts throughout the several views and in which:

Fig. 1 is a plan view showing a preferred embodiment of the invention in closed position, some portions being shown in section and the open position of one of the clamping elements being shown in dotted lines;

Fig. 2 is a cross section taken on the line 2—2 of Fig. 1;

Fig. 3 is a fragmentary longitudinal section showing the construction of my automatic throw out switch, and

Fig. 4 is a cross section taken on the line 4—4 of Fig. 3.

I prefer to provide a pair of elongated straight clamping and waving members, the inner one (5) of which is preferably of hollow construction either cast or pressed having a substantially straight tenon portion 5^a with a rounded end and a widened base portion 5^b provided with out-turned flanges having slightly rounded shoulders. The outer clamping member 6 is preferably of U-shaped cross section conforming in shape to the tenon portion 5^a of the inner clamping member and having the out-turned flanges 6^a symmetrical with flanges 5^b. It will also be noticed that the extremities of flanges 6^a are slightly upturned to prevent the same from cutting or scoring the hair.

The outer ends of clamping members 5 and 6 are tapered or inclined to permit the iron to be more easily passed through portions of the hair to engage the strands. Shanks 7 and 8 are secured to clamping members 5 and 6 respectively, said shanks crossing at their intermediate portions and being pivoted together by a suitable pin 9. The outer ends of said shanks terminate in a pair of handles 7^a and 8^a respectively adapted to be manipulated in the manner of a pair of scissors. The outer clamping member 6 is preferably opened at both ends, while inner clamping member 5 forms a tubular housing for an electrical heating unit 10 of suitable type. The outer end of inner clamping member 5 is closed by means of an inclined plate or partition 5^c and the heating unit 10 insulated as shown, within a relatively thick strip of asbestos 11 is disposed within member 5 and may be projected therein longitudinally. The longitudinal edges of insulating pad 11 are folded or bent about the heating unit protecting the same and snugly holding the heating unit in operative position. The inner end of clamping member 5 is provided with an automatic cut out switch adapted to break the circuit through heating element 11 when the members 5 and 6 are clamped about a

strand of hair. The inner section of clamping member 5 is partitioned by means of a pair of spaced transverse plates 12 and 13 respectively, plate 13 closing the inner extremity and my automatic switch is disposed in the compartment so formed. A fixed contact pin 14 is secured to and insulated from partition 12 extending longitudinally of member 5 and projecting into the switch compartment. One of the ends of the heating element 10 is connected to said contact, while the other end of the heating element is connected to a lead wire 15. An insulated pin 16 is slidably disposed within member 5 extending transversely thereof and having one end projecting through the rounded clamping edge of member 5. The opposite end of pin 16 is mounted in a sleeve or bearing 17 secured to the base portion 5^b. An annular contact member 18 is rigidly secured to the medial portion of pin 16 and is connected with the second lead wire 19. The under face of contact 18 is suitably insulated and a small coiled spring 20 is interposed between said insulation and the base portion 5^b, surrounding bearing sleeve 17. It will be seen that the outer end of pin 16 projects sufficiently beyond member 5 to be engaged by the inner surface of the intermediate portion of clamping member 6 retracting contact 18 from its engagement with fixed contact 14 when the clamping members are closed about a lock of hair. Thus when the hair is actually being waved the circuit through the heating element will be broken and there will be no possibility of scorching or burning the hair, although sufficient heat will be retained by the inner clamping member 5 to nicely wave the hair. As soon as handles 7^a and 9^a are pushed apart insulating pin 16 is released and the circuit is again completed through the heating element. The iron obviously may be tested for temperature before application to the hair and the inclined outer ends of the clamping members 5 and 6 may be easily passed through the hair to separate and engage a desired portion or lock.

In effecting a Marcel wave the iron is successively applied to a lock of hair, forming with each application a complete wave. It is not necessary to reverse the position of the iron, since a relatively long so-called "flat" wave is completed by each application. Each wave comprises an inverted U-shaped convex portion and short relatively straight portions extending from the side thereof. When the instrument is applied to the immediately adjacent portion of the lock the adjacent relatively short straight portions are joined, cooperating to form two complete waves.

From the foregoing description it will be seen that I have provided a simple but highly efficient waving iron for hair capable of quickly effecting ornate Marcel waves and so constructed that scorching or burning of the hair will be impossible. The device comprises few parts and can be manufactured at little expense. My improved automatic cut off switch is positive in nature and will withstand long continuous usage.

It will, of course, be understood that various changes may be made in the form, details, proportions and arrangement of parts without departing from the scope of the invention.

What is claimed is:

1. Hair waving apparatus comprising a pair of pivotally connected interfitting clamping members adapted to press a lock of hair therebetween, an electrical heating element disposed within one of said clamping members and adapted to be connected to a source of electricity, and a switch carried by one of said clamping members adapted to automatically break the circuit through said heating element when said clamping members are swung together whereby the current will be shut off through said heating element when the device is actually in operation.

2. Hair waving apparatus comprising a pair of pivotally connected interfitting clamping members adapted to press a lock of hair therebetween, an electrical heating element carried by one of said clamping members, electrical connections adapted to connect said heating element with a source of electricity, a switch in one of said connections adapted to automatically break the circuit through said heating element when said clamping members are swung together whereby the current will be shut off through said heating element when the device is actually in operation.

3. Hair waving apparatus comprising a pair of pivotally connected interfitting clamping members, an electric heating element disposed within one of said clamping members, electrical connections adapted to connect said heating element with a source of electricity and a switch disposed within one of said clamping members and interposed between one of said connections and one end of said heating element, said switch including a movable contact having an insulated extension projecting through the face of said last mentioned clamping member and adapted to be engaged by the opposite face of said other clamping member when said members are swung together.

4. Hair waving apparatus comprising a pair of pivotally connected interfitting clamping members, an electric heating element disposed within one of said clamping members, electrical connections adapted to connect said heating element with a source of electricity and a switch disposed within one of said clamping members and interposed between one of said connections and one end of said heating element, said switch includ-

ing a fixed contact and a slidable contact having an insulated extension projecting through the face of said last mentioned clamping member and adapted to be engaged by the opposite face of said other clamping member when said members are swung together, and means for yieldingly holding said movable contact in engagement with said fixed contact when said members are disposed apart.

5. Hair waving apparatus comprising a pair of pivotally connected elongated interfitting clamping members adapted to compress a lock of hair, one of said members having a relatively deep grooved face of approximately U-shaped cross section, the base portion of the U being rounded and of a width less than two-thirds of the depth of said groove, said groove having substantially flat parallel sides, said member also having out-turned longitudinal flanges extending from said face, said other member having a tenon portion complementary shaped to said groove and carrying out-turned flanges adapted to be pressed against the out-turned flanges of said grooved member.

6. In an electrical heating apparatus of the class described, a pair of co-operating clamping members adapted to be moved together to press in shape material therebetween, an electrical heating element carried by one of said members and adapted to be connected to a source of electricity, a switch carried by one of said members, means for holding said switch in closed position when said clamping members are disposed in spaced relation, whereby said members will be heated, and means for automatically opening said switch when said clamping members are moved together, the residual heat of said clamping members being sufficient to press and form said material.

In testimony whereof I affix my signature.

JOHN P. POLNASZEK.