Aug. 10, 1943. F. G. HALL 2,326,141

ELECTRIC HOME PERMANENT WAVER

Filed Feb. 7, 1942

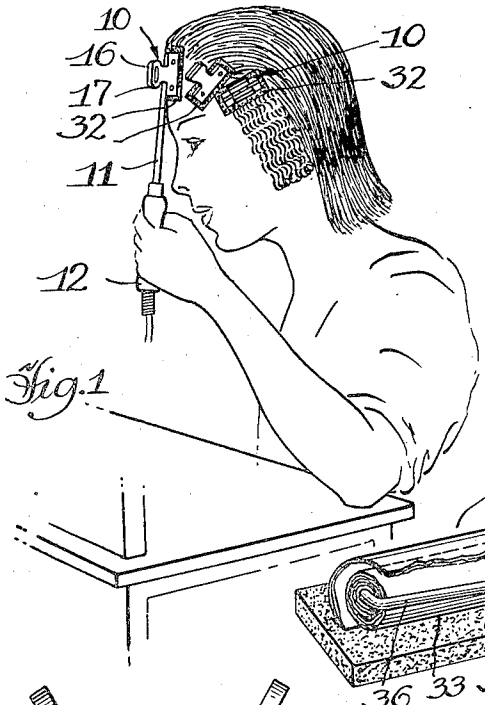


Fig.1

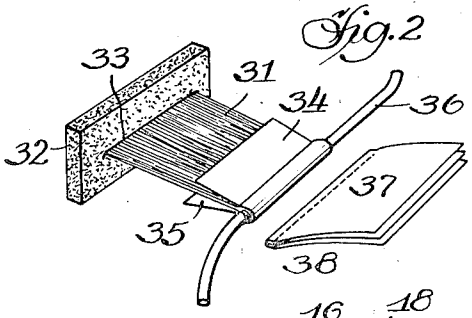


Fig.2

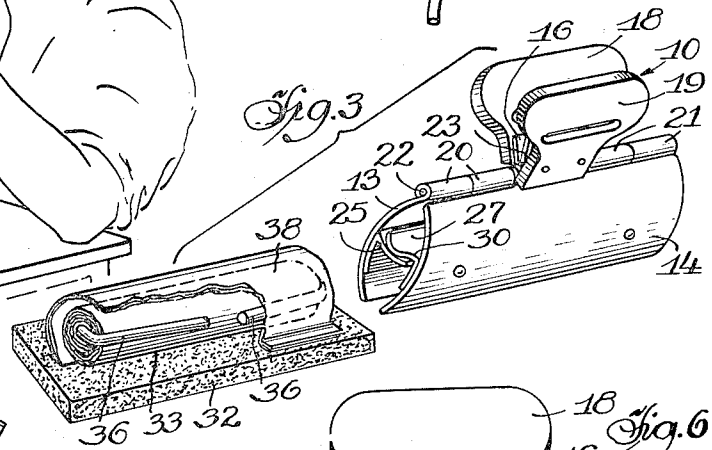


Fig.3

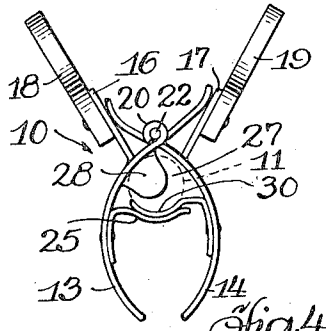


Fig.4

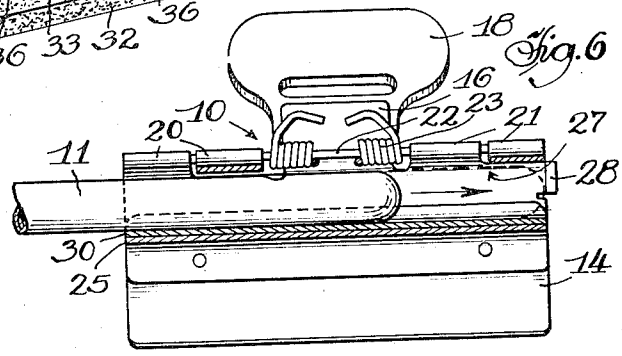


Fig.6

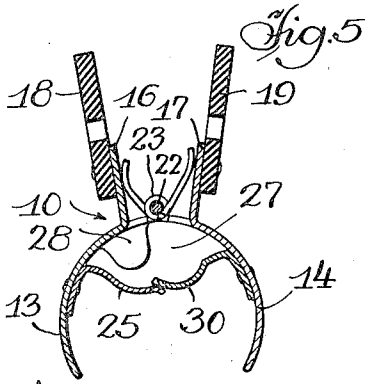


Fig.5

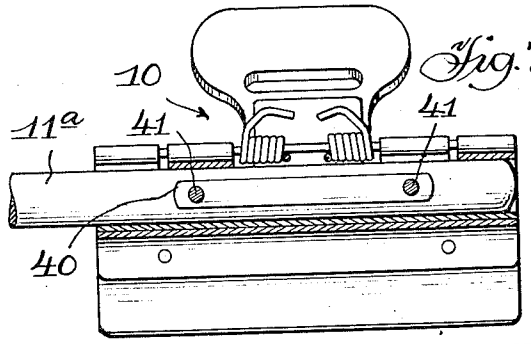


Fig.7

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ELECTRIC HOME PERMANENT WAVER

Frank G. Hall, Chicago, Ill.

Application February 7, 1942, Serial No. 429,865

6 Claims. (Cl. 219—24)

This invention relates to improvements in apparatus for permanently waving hair, and more particularly to electrically heated hair waving apparatus capable of use by a woman for home treatment of her own hair.

Various forms of electrically heated hair-waving devices have heretofore been employed, but in most instances they are so complicated that they require expert manipulation by beauty parlor attendants, and in all cases they demand especial precautions in order to avoid the dangers of burning or scalding of the hair and scalp. Nevertheless, scalp burns are still of frequent occurrence, even under skilled hands, due to accidental displacement or twisting of the heating elements so as to contact the scalp directly, or so as to permit a jet of steam to be discharged from the curl wrapper toward the scalp.

In carrying out my invention I provide a simple and economical form of heating apparatus, including one or more metallic hair roll clamps designed to be self applied to the hair, and positively held in proper position on the head by means of an electric heating device having an elongated handle, so as to avoid any danger of burns or scalds to the user.

The invention may best be understood by reference to the accompanying drawing, in which

Figure 1 is a view illustrating the method of use and application of my improved form of hair waving apparatus.

Figure 2 is an enlarged perspective view illustrating one manner in which a hair strand may be initially formed into a roll or curl preparatory to the application of my improved form of heating apparatus.

Figure 3 is an enlarged perspective view of a heating clamp shown in position to be applied to a hair roll or curl formed by the curling means shown in Figure 2.

Figure 4 is an end view of the heating clamp, in closed position, with the heating element removed therefrom.

Figure 5 is an end view of the heating clamp, showing it in fully and partially opened position.

Figure 6 is a detail view of the heating clamp shown in longitudinal section, and showing how the removable heating element is inserted therein.

Figure 7 is a view in longitudinal section of a modified form of heating apparatus in which the clamp is permanently mounted on the heating element.

Referring now to details of the embodiment of the invention shown in the drawing, the principal parts of the novel apparatus comprise a metal holding clamp 10 and an elongated heating element 11 having a handle 12. In the preferred form illustrated in Figures 3 to 6, the holding clamp is detachably mounted relative to the heating element, and comprises two elongated jaws 13, 14 suitably hinged for clamping action about a preformed hair roll or curl indicated generally at 15 in Figure 3.

In the form of clamp shown herein, the jaws 13 and 14 have similar integral finger pieces 16, 17 extending upwardly from adjacent their upper margins, and suitably protected from heat by insulating plates 18, 19 secured to the outer faces of said finger pieces. The hinged connection between said jaws comprises registering eyes 20, 20 and 21, 21 formed along the opposite side margins of said jaws and hinged together by a pivot pin 22. A coil spring 23 is mounted on the pivot pin with its extended ends maintained under tension so as to tend to urge the jaws 13 and 14 together. The jaws are opened as usual by pressing the finger pieces toward each other.

As shown in Figures 4 and 5, the jaws 13 and 14 of the clamp 10 are preferably curved inwardly toward each other from the hinged eyes 20 and 21, respectively. At an intermediate point on the inner face of one of said jaws, as for instance jaw 13, is secured a relatively resilient strip of metal forming an inwardly projecting horizontally extending plate 25, preferably curved in transverse section in an upwardly direction so as to define a longitudinal socket or opening 27 formed below the hinged eyes 20 and 21 and between the upper side walls of the two jaws 13 and 14 for the insertion of the end of the cylindrical heating element 11 in closely confined but yielding metal-to-metal contact therein. At one end of this socket a suitable stop is provided, herein consisting of an inturned portion or lug 28 projecting from one of the jaws 13.

Immediately below the curved plate 25 is mounted a second plate 30 which is attached along the inner face of the opposite jaw 14 and extends inwardly therefrom closely adjacent the lower surface of said curved plate. The arrangement is such that the plates 25 and 30 overlap each other throughout their length when the clamp is in closed position as shown in Figure 4, so as to form a partition adapted to conduct the heat from the heating element 11 directly to the jaws 13 and 14, and also protect the hair roll from a more direct application of heat from said heating element. When the clamp is in open position as indicated in dotted lines in Figure 5, the two

plates 25 and 30 form a telescopic stop for positioning the hair roll between the jaws so that said roll cannot become accidentally misplaced or pinched between the extreme end of the upper plate 25 and the jaw 14 when the user is applying the clamp to the roll.

The heating element 11 may consist of the usual electric resistance element enclosed in a cylindrical metal casing in the usual manner and having the handle 12 secured to its lower end. The heating element and handle are relatively long so as to facilitate the use of the apparatus, as will now be described.

Preparatory to the application of my improved heating apparatus one or more strands or tresses of hair 31 which are to be treated are each passed through a protective shield or pad 32 of the usual form having a longitudinal slit 33 therethrough. The pad is then brought against the scalp. In preparation for treatment the strand of hair is moistened as usual with a permanent wave or hair-treating solution. The exposed end of said strand is then rolled on a suitable curler which, in the form shown herein, consists of an elongated strip of cloth such as flannel folded upon itself to form two lapping sheets 34, 35. Along the folded end of the wrapper is disposed an insulating wire 36 having bendable end portions projecting at opposite sides of the wrapper as clearly shown in Figure 2. The end of the hair strand is initially inserted between the flannel sheets 34, 35 as shown in Figure 2, and the wrapper is then rolled over and inwardly toward the pad 32. This forms a compact hair roll or curl which is secured in place close to the pad 32 by bending the free ends of the wire 36 over the sides of the roll, as shown in Figure 3.

Before applying the heating means, the roll is preferably covered by a suitable envelope or protecting means, herein consisting of a sheet of flannel or similar material 37 with a superimposed sheet of foil 38 as shown in Figures 2 and 3. The heating clamp 10 is then secured over and along the roll and its envelope, the jaws being held against the opposite sides thereof under tension of the spring 23. The device is then ready for the application of the heating element 11 which is preferably heated before application to the clamp.

In practice, several such hair rolls may be made up at one time, with individual clamps 10 applied thereto, so that a single heating element can be applied successively thereto.

The heating element 11 is inserted endwise in the socket 27 of the clamp until its extreme end reaches the end stop 28 in said clamp. Since the clamp is cool at this time, it can readily be held by the fingers while the heating element is being inserted. The heat from said element is then conducted through the metal-to-metal contact with the surrounding parts of the clamp, and particularly the plates 24 and 25, to the two jaws 13 and 14 of the clamp, so that the heat is distributed around the top and sides of the roll of hair for such time as is necessary to complete the hair waving operation.

It will be understood that it is highly desirable that the clamp be maintained in comparatively stable position relative to the head while the heating element is inserted in the clamp, so that the clamp can not become accidentally displaced or twisted while in its highly heated condition so as to come in contact with the scalp or permit escaping steam to scald the user. With my improved apparatus, the user holds the heating element by its handle 12 so that the clamp will be maintained in its proper position during the entire heating period. It will also be observed from Figure 1 that the handle and the heating element are together sufficiently long so that the user can steady her arm on a suitable rest, and thus will not become fatigued during the several minute heating period which is required for each roll.

In the modified form of device shown in Figure 7, the heating element 11a in clamp 10a are of substantially the same form described in connection with the preceding figures, excepting that the heating element 11a is rigidly secured to the clamp 10a as by base plate 40 and rivets 41, 41. The apparatus is constructed and used in much the same manner as described in connection with the previous figures, excepting, of course, that the clamp may be applied to the hair roll in heated condition.

Although I have shown and described certain embodiments of my invention, it will be understood that I do not wish to be limited to the exact construction shown and described, but that various changes and modifications may be made without departing from the spirit and scope of my invention as defined in the appended claims.

I claim as my invention:

1. In a hair waving apparatus, an elongated clamp having a pair of spring-pressed metallic jaws hinged on a longitudinal axis, and having a transverse partition extending between said jaws adjacent the hinged axis thereof to form a longitudinally extending socket open at one end, and an elongated, handled holding member including a heating element adapted for detachable fitting engagement in said socket in direct heat-conducting relation with said partition member and said jaws.

2. In a hair waving apparatus, an elongated clamp having a pair of spring-pressed metallic jaws hinged on a longitudinal axis, a transverse partition extending between said jaws adjacent the hinged axis of the latter to form a longitudinally extending socket open at one end of said clamp and closed to the space formed between the free ends of said jaws, and an elongated, handled holding member including a heating element adapted for detachable fitting engagement in direct heat-conducting relation in said socket and slidably removable from one end thereof.

3. In a hair waving apparatus, an elongated clamp having a pair of spring-pressed metallic jaws hinged on a longitudinal axis, two lapping plates extending inwardly from the opposite jaws to form an elongated socket between said jaws adjacent the hinged axis thereof, and an elongated, handled holding member including a heating element adapted for detachable fitting engagement in said socket and slidably removable from one end thereof.

4. In a hair waving apparatus, an elongated clamp having a pair of spring-pressed metallic jaws hinged on a longitudinal axis, two lapping plates extending inwardly from the opposite jaws to form a telescoping transverse partition spaced above the free ends of said jaws, and also forming an elongated socket adjacent the hinged axis of said jaws, and an elongated, handled holding member including a heating element adapted for detachable fitting engagement in said socket and slidably removable from one end thereof.

5. In a hair waving apparatus, an elongated

clamp having a pair of spring-pressed metallic jaws hinged on a longitudinal axis, two lapping plates extending inwardly from the opposite jaws to form a telescoping transverse partition spaced above the free ends of said jaws, the upper plate having a yielding outer portion bent upwardly in spaced relation with its respective jaw to form an elongated socket, and an elongated, handled holding member including a heating element adapted for detachable yielding engagement in said socket.

6. In a hair waving apparatus, an elongated clamp having a pair of spring-pressed metallic jaws hinged on a longitudinal axis, socket forming means substantialy parallel with said jaw hinge and opening to one end of said clamp, said socket forming means being in effective heat-transfer relation to both of said jaws, and an elongated handled holding member including a heating element adapted for endwise detachable engagement in said socket forming means.

FRANK G. HALL.