

Feb. 28, 1933.

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1,899,190

PERMANENT HAIR WAVING OR CURLING DEVICE

Original Filed March 11, 1931

2 Sheets-Sheet 1

Fig. 1.

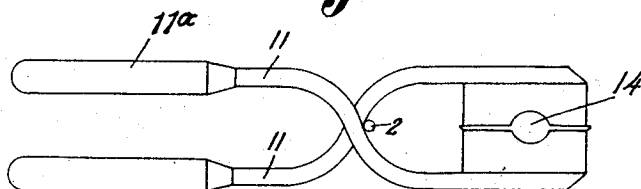


Fig. 2.

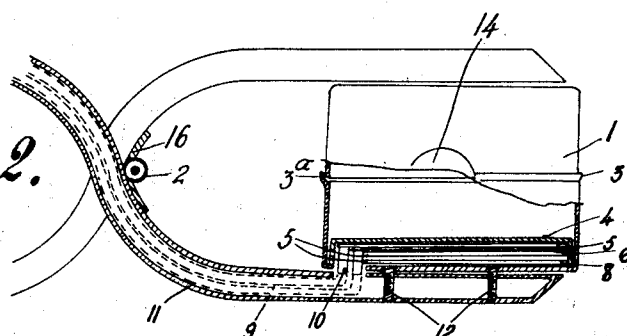


Fig. 3.

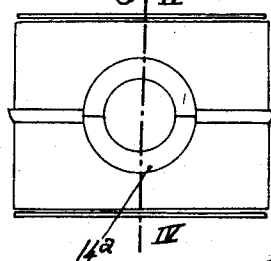


Fig. 4.

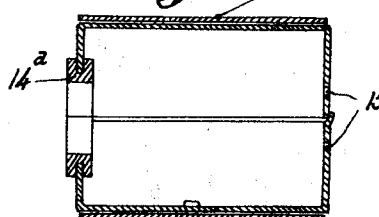
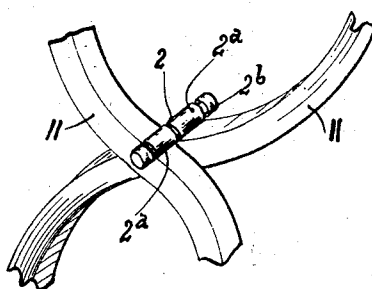


Fig. 5.



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Fig. 6

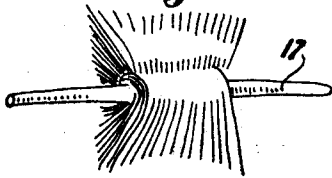


Fig. 9

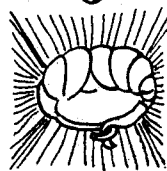


Fig. 7

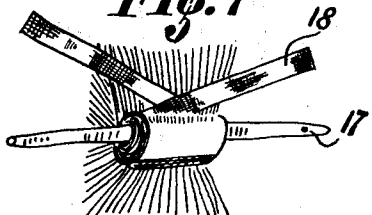


Fig. 10

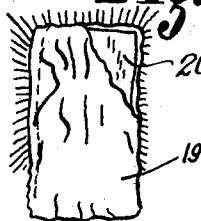


Fig. 8

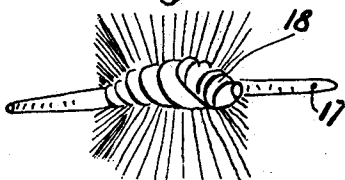
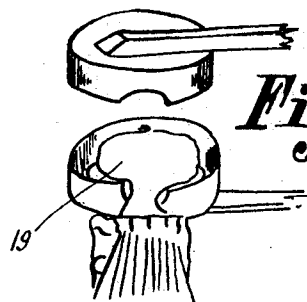


Fig. 11



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UNITED STATES PATENT OFFICE

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PERMANENT HAIR WAVING OR CURLING DEVICE

Continuation of application Serial No. 521,819, filed March 11, 1931, and in France December 31, 1930.

This application filed December 29, 1931. Serial No. 583,617.

The present invention relates to a permanent hair waving or curling device, heated either by borrowed heat or fitted with electrical heating elements and is a continuation of my co-pending application filed March 11th, 1931, under Serial No. 521,819.

A simple permanent hair waver, for individual home use has long been sought, but difficulties were experienced in obtaining a heating oven having a sufficiently tight closure to maintain a given steam temperature over the desired period and at the same time permit the steam to escape without injury to the unskilled operator, or the scalp or hair. Heretofore the heating surface which was necessarily at a high temperature would burn the hair due to the direct contact of the metal therewith or to the concentration of heat at a given point.

A principal object of the present invention is therefore to provide a heating oven formed by two cup jaws adapted to fit one into the other, and to avoid point concentration of heat caused by bolts, nuts, rivets, screws etc. by using as a heating surface for the hair a flanged cup member which is adapted to be forced into each of the aforesaid cup jaws.

Another object of my invention is to provide a handy permanent, hair-waver or curler of the utmost simplicity, which is capable of being safely and easily used by unskilled persons.

With these and other objects in view, the invention is characterized by the arrangement and combination of parts as disclosed in the following detailed description of the accompanying drawings and as set out in the appended claims.

In the accompanying drawings:

Fig. 1 is a side view of a hair-waver according to the invention.

Fig. 2 is an enlarged sectional view of the device of Fig. 1.

Fig. 3 is an outside elevation of the cup jaw of the hair-waver.

Fig. 4 is a section on the line IV—IV, Fig. 3, of the cup jaws of the hair-waver.

Fig. 5 is a perspective view of the hinge

connection between the two handles of a waving iron heated electrically.

Figures 6 to 11 illustrate diagrammatically the method of arranging the strand of hair prior to placing it inside the cup jaws of the waving iron.

Figure 6 showing how a strand of hair is wound on a curler,

Figures 7 and 8 showing the wrapping of a gauze strip on the strand of hair wound on the curler,

Figure 9 illustrating the curler bent round and its ends twisted together,

Figure 10 depicting a flannel bag in which the curler is then placed, and

Figure 11 showing the flannel bag placed in one of the cup jaws with the other cup jaw above it.

The hair-waver according to the invention comprises two round hollow shells or cup jaws 1 of even thickness mounted on the handle portions 11 which cross each other, being pivotally hinged externally at their point of intersection. Said handles may be formed by metal bars when borrowed heat is used, and, in the case of heating by means of electrical resistance elements, said handles are made of hollow metal tubing of square, rectangular or round cross-section so that the flex wire 9 carrying the electric current can pass through them unobstructed.

In the case of the electrical waving iron the pivot hinge 2 is composed of a piece of metal tubing 2^a (Fig. 5) brazed on to each handle 11 at their point of intersection, with a bolt 2^b passing therethrough, the assembly thus forming a pivot which obviates the possibility of short circuit or shock caused by the pivot wearing and the covering of the wire fraying. When borrowed heat is used, the hinge 2 might be simply a rivet passing through both handles.

The handles 11 may be grasped by means of wood portions 11^a which cover said handles and act as insulators.

The cup jaws 1 are fixed to the ends of the handles 11 by screws 12 and one of said cup jaws 1 is formed with a flange or lip 3^a adapted to receive the rim of the other cup jaw so that said cup jaws when brought together

form a closed container or oven. Each cup jaw has a semi-circular opening 14 formed in its rim, said two openings being in register when the jaws are brought together and forming an aperture through which the strand of hair can pass. Aeration holes 15 acting as an exit for the steam are likewise formed in the cup jaws 1.

Each of the round cup jaws 1 is provided with a heating surface formed by a metallic cup 4 which is forced into the associated cup jaw and provides a housing for the electric resistance elements 6 wound on an insulating sheet of mica 5 and between which and the under face of the top of the cup 4 is inserted a second sheet of mica 5 while two sheets of mica 5 and a sheet of asbestos 8 are inserted between the resistance 6 and the base of the cup jaw 1. The resistance elements 6 are connected to the flex wire 9 which passes through insulators 10 located in the cup jaws 1.

A wire spring 16 can be fitted to the handles 11 if desired, such wire spring tending to maintain said handles open.

The method of preparing the hair prior to its insertion in the hair-waver has been illustrated in Figs. 6-11 inclusive.

The strand of hair to be waved is first moistened with a suitable liquid and rolled on an ordinary flexible curler 17. A strip of gauze 18 is then wrapped round the lock of hair in the manner illustrated in Figs. 7 and 8, after which the curler 17 is bent round and its ends twisted together as shown in Fig. 9. A flannel bag 19 is then passed over the bent curler, after which it is inserted in the cup jaws 1 and protrudes therefrom through the opening 14, thereby forming an insulator between the waving iron and the scalp and the waving iron and the strand of hair. The cup jaws 1 can be fitted with a fibre attachment 14^a mounted at the edges of the opening 14 so that a double insulator is thus formed.

The electric current having been switched on, the device is heated by the resistance elements which disposed as they are, transmit heat uniformly throughout the cup 4 since no screws, bolts or rivets are used in fixing the latter. Moreover the flannel bag containing the strand of hair is also uniformly heated and any steam given off by the liquid with which the hair is moistened escapes through the holes 15. In the event of the hair being left for an excessive length of time in the cup jaws 1, the flannel bag, which scorches in from 3-5 minutes, provides an effective signal to call the attention of the operator to the fact that it is time to release the strand of hair. The strand of hair on being released comes out permanently waved without injury to the hair.

The device as hereinbefore described is preferably heated by electric elements, but it can also derive its heat from a gas ring, a spirit lamp, etc. in which case the electric

elements are suppressed, and, in order to retain the heat longer, a metal disc 13 is placed between the handle 11 and the cup jaw 1.

I have found that cotton flannel is a very satisfactory material for making the bag and that by lining the latter with aluminium or tin foil 20 (Fig. 10), the heat is rapidly absorbed and retained, thereby enabling the operator to pull apart the cup jaws and inspect the bag without the temperature dropping due to heat loss. Moreover the effect of the aluminium or tin foil is to distribute the heat evenly and thus to avoid possible burning of the hair. Moreover the flannel bag affords an indication as to the state of the hair. Thus when the bag is browned, it is an indication that the hair is permanently waved.

I claim:

1. In a permanent hair-waving iron, the combination of a pair of handles pivotally interconnected at their intermediate portions, two cup-shaped jaws each consisting of a circular flanged disc of uniform thickness to the flat portion of which the corresponding handle is secured, said flanged portions, when brought together through the medium of said handles, forming a completely closed cylindrical heating chamber bounded at the ends by the flat portions of the jaws and adapted to receive the hair through an opening formed in the flanges of said discs, and to afford an egress for the vapors, formed during heating, through a second opening likewise formed in the flanges of said discs.

2. A permanent hair-waving iron comprising a pair of handles pivotally interconnected at their intermediate portions, two cup-shaped jaws secured respectively to said handles near one end thereof and adapted to be brought thereby into close contact to form a hair receiving and heating chamber, one of said cup-shaped jaws having a flange in which the edge portion of the other cup-shaped jaw is adapted to fit, a heating element mounted within each of said cup-shaped jaws, and a cup member adapted to fit tightly into each of said cup-shaped jaws and to enclose the associated heating element from which it receives heat.

3. A permanent hair-waving iron comprising a pair of handles pivotally interconnected at their intermediate portions, two cup-shaped jaws secured respectively to said handles at one end thereof and adapted to be brought thereby into close contact to form a hair receiving and heating chamber, one of said cup-shaped jaws having a flange in which the edge portion of the other cup-shaped jaw is adapted to fit, the edge portions of said cup-shaped jaws having recesses cooperating to provide an aperture for accommodating a strand of hair, a heating element mounted within each of said

cup-shaped jaws, and a cup member adapted to fit tightly into each of said cup-shaped jaws and to enclose the associated heating element from which it receives heat, said pivotal connection between said handles being formed externally thereto by sleeve members respectively secured to the outside of said handles, and a pin passing through said sleeve members.

4. A permanent hair-waving iron comprising a pair of handles pivotally interconnected at their intermediate portions, two cup-shaped jaws secured respectively to said handles at one end thereof and adapted to be brought thereby in close contact to form a hair receiving and heating chamber, a heating element mounted within each of said cup-shaped jaws, a cup member adapted to fit tightly into each of said cup-shaped jaws and to enclose the associated heating element from which it receives heat, the edge portions of said cup-shaped jaws having recesses cooperating to provide an aperture for accommodating a strand of hair, and a fibre ring mounted on the edge of said recesses.

5. A permanent hair-waving iron comprising a pair of handles crossing each other at a point intermediate their ends, sleeve members respectively mounted on said handles in the vicinity of their intersection, a pin passing through said sleeve members to form a pivotal connection between said handles, two cup-shaped jaws secured respectively to said handles near one end thereof and adapted to be brought thereby into contact to form a hair receiving and heating chamber, said handles being suitably bent after crossing each other, so that the portions of said handles on which the cup-shaped jaws are mounted shall lie in the same plane.

6. A method of curling or permanently waving hair, which consists in winding a strand of hair on a flexible member, wrapping a strip of gauze round the hair wound on said flexible member, bending the flexible member round and twisting together the ends thereof, inserting said flexible member in a flannel bag, and heating said flannel bag.

7. In a permanent hair-waving iron, the combination of a pair of hollow handles; means, disposed on the outside of the said handles, for pivotally connecting said handles together in crossed relation; and two cup-shaped jaws comprising circular flanged discs of uniform thickness, to the flat portions of which the corresponding handles are secured, said flanged portions of said discs, when brought together through the medium of said handles, forming a cylindrical heating chamber bounded at the ends by the flat portions of said discs and adapted to receive the hair through an opening formed by mating recesses in the flanges of said discs.

8. In a permanent hair-waving iron, the combination of a pair of hollow handles;

means, disposed on the outside of said hollow handles, for pivotally connecting said handles together in crossed relation, said handles being so curved in the region of their pivotal connection as to be coplanar on either side of said connection; and two cup-shaped jaws comprising circular flanged discs of uniform thickness, to the flat portions of which the corresponding handles are secured; said flanged portions of said discs, when brought together through the medium of said handles, forming a cylindrical heating chamber bounded at the ends by the flat portions of said discs and adapted to receive the hair through an opening formed by mating recesses in the flanges of said discs.

9. In a permanent hair-waving iron, the combination of a pair of hollow handles; means, disposed on the outside of said handles, for pivotally connecting said handles together in crossed relation; two cup-shaped jaws comprising circular flanged discs of uniform thickness, to the flat portions of which the corresponding handles are secured, said flanged portions of said discs, when brought together through the medium of said handles, forming a cylindrical heating chamber bounded at the ends by the flat portions of said discs and adapted to receive the hair through an opening formed by mating recesses in the flanges of said discs; an electrical heating element mounted in each cup-shaped jaw; mica insulation in which said electrical heating element is embedded; and a cup member of even thickness throughout adapted to fit tightly into each of said cup-shaped jaws and to enclose the associated heating element from which it receives heat.

10. In a permanent hair-waving iron, the combination of a pair of handles, means secured to the outside of said handles for pivotally connecting said handles in crossed relation, two cup-shaped jaws each consisting of a circular flanged disc to the flat portion of which the corresponding handle is secured, said jaws when brought together forming a closed cylindrical heating chamber, a flexible curler adapted to be bent circular in order to be received in said heating chamber, said curler acting as a support on which the hair is wound, and a flannel bag in which said curler is accommodated, said flannel bag protruding through a hole formed in the flanges of said discs for the passage of the hair and forming an insulant between the iron and both the hair and scalp.

11. In a permanent hair-waving iron, the combination of a pair of handles, means secured to the outside of said handles for pivotally connecting said handles in crossed relation, two cup-shaped jaws each consisting of a circular flanged disc to the flat portion of which the corresponding handle is secured, said jaws when brought together forming a

closed cylindrical heating chamber, a flexible curler adapted to be bent circular in order to be received in said heating chamber, said curler acting as a support on which the
5 hair is wound, a flannel bag in which said curler is accommodated, said flannel bag protruding through a hole formed in the flanges of said discs for the passage of the hair and forming an insulant between the iron and
10 both the hair and scalp, and a metal foil lining for said bag.

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