

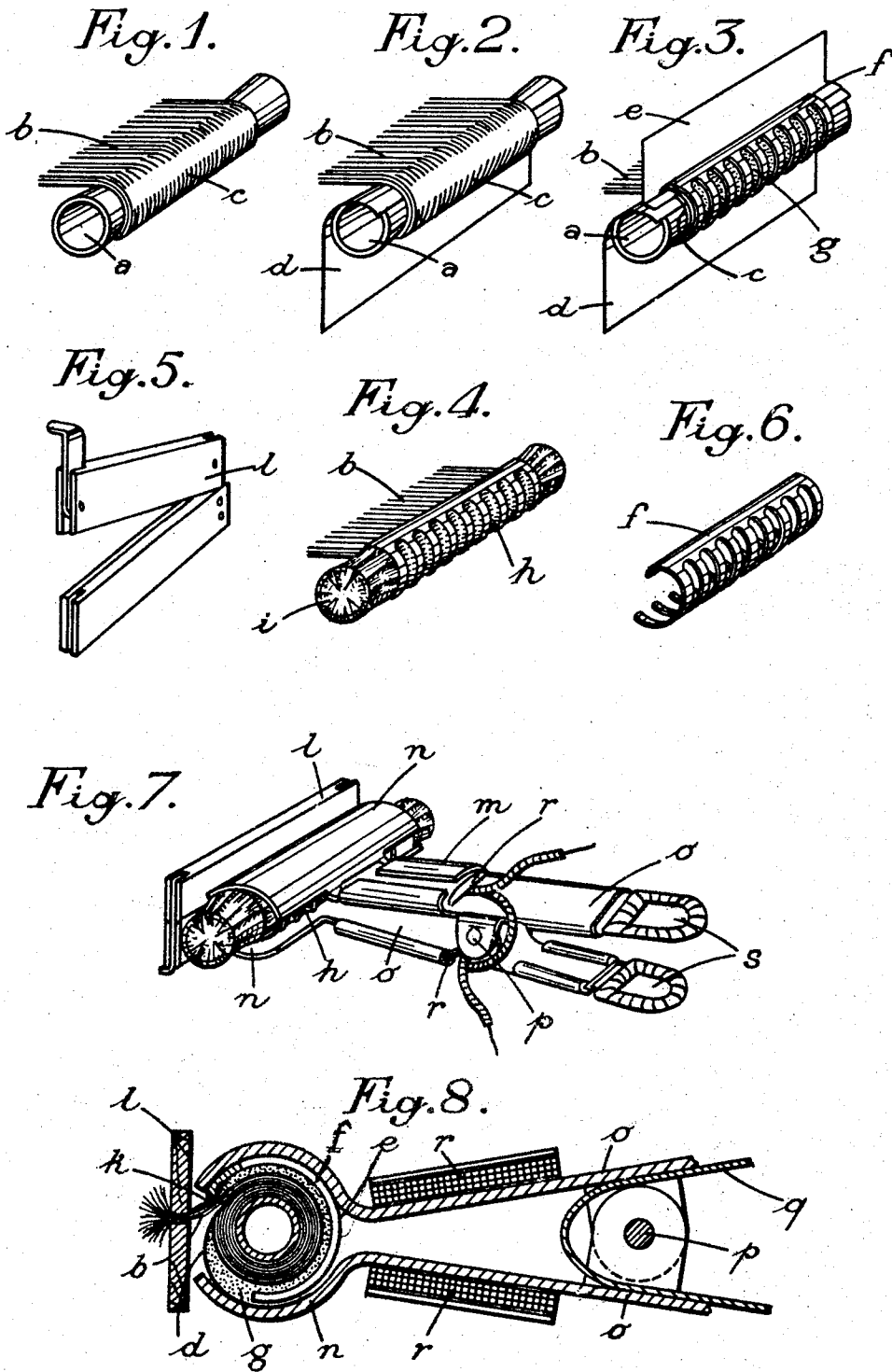
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METHOD AND MEANS FOR PERMANENTLY WAVING HAIR

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METHOD AND MEANS FOR PERMANENTLY WAVING HAIR

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This invention relates to methods and means for giving hair a permanent wave by subjecting each strand or lock of hair wound flat on a curler to a separate baking operation of some minutes in a small closed electrically heated container. It has for its objects to render such processes simpler and more efficient, to enable the hair to be curled closer to the scalp and generally to permit the natural waves and ringlets to be imitated perfectly without requiring complicated apparatus or too long a preparatory operation.

According to my invention, after having wound a lock of hair flat onto a curler, I form around it a fluid tight case by winding in opposite directions two leaves of metal foil leaving between them a longitudinal slot tightly gripping the part of the lock adjacent to the scalp. The side edges of the metal leaves are folded together over each end of the curler and the longitudinal slot is rendered fluid tight by a coating of a suitable material. In order to tighten the edges of the slot and firmly hold the coil of hair I provide a clip made of malleable metal, preferably in the shape of a semi-cylindrical comb, which I place in position after having seized the hair between the two metal leaves, whereupon I wrap the leaves around said clip, this forming a case adapted to be molded on the hair.

By this means I am able to prepare easily each coil of hair and submit same to exactly the desired amount of tension while obtaining a perfect fluid-tightness of each little case. The necessary moisture is provided by wetting the hair and inserting a thin layer of wadding or the like impregnated with a suitable liquid which I maintain around the coil of hair by means of the malleable clip. Owing to the fluid-tightness of the case, the hair remains wet until the end of the process, there is no escape of steam and the curler may without any inconvenience to the patient be placed quite close to the head, as is the case with paper curlers.

In order to bake the hair I fit on each case a heating clip two jaws of which are preferably each heated separately by an electrical resistance in order to produce a uniform heating of the case.

The accompanying drawing illustrates one embodiment of the invention by way of example.

Figures 1, 2, 3 and 4 are perspective views showing the successive stages in the formation of a baking case or container by means of sheets of tin foil.

Figures 5 and 6 are perspective views of two accessories.

Figure 7 shows also in perspective the baking container placed in the heating clip, and

Figure 8 is a view to a larger scale showing the jaws of the heating clip, the baking container and its contents in section.

As shown in Figure 1, the operation is commenced by winding a lock of hair *b*, spread out in a sheet and moistened by means of a suitable product, about itself round a curler *a* for example a small aluminium tube. Before completing the winding of the lock *b* close against the head of the subject, not shown, a sheet of tin foil *d* slightly larger than the curler *a* is inserted between the two last turns of the coil of hair *c* in such a way as to overlap at each side of the latter (Figure 2). A second sheet of tin foil *e* is then fixed on the outside of the coil of hair *c* and held by one edge upon the coil by means of a semi-cylindrical comb-shaped clip *f* which is lined internally with a thin layer of wadding *g* (Figure 3). This clip *f* (Figure 6) is preferably made of a malleable metal so that it can easily be nipped on to the coil *c* by a simple finger pressure and the layer of wadding *g* is intended to keep the hair moist during the baking.

When the sheets of tin foil *d* and *e* have been placed in position the sheet *d* is wound round the coil and the clip *f* and then the sheet *e* in the other direction over the sheet *d* and in this way a kind of case *h* is formed which has closed ends by turning the lateral edges of the sheets *d*, *e* inside the ends of the curler *a*, as shown at *i* in Figure 4. This case *h* forms the baking container according to the invention, which is hermetically closed at all parts, a fluid tight joint at the aperture *k* through which the lock *c* passes between the sheets *d*, *e* being obtained by the pressure of the clip *f* and by a coating of

a material such as flour paste and water with which the edges of the aperture *h* are covered.

The length of the part of the lock which has not been wound upon the curler may be a minimum in view of the fact that it is possible to wind the hair close up to the head before forming the case *h* and it is sufficient to leave between the latter and the head the necessary space to interpose a small clip *l* made of wood or other suitable insulating material in order to avoid any risk of burning the subject during the heating operation.

After having formed such a case *h* in the manner described above around each of the locks of hair to be waved, each case is placed in a heating clip *m*, made of aluminium or other suitable metal, which comprises two short and wide concave jaws *n* carried by arms *o* pivotally connected to each other at *p* and controlled by a spring *q*. Each of the jaws *n* is heated separately by means of an electrical resistance *r* mounted upon the corresponding arm *o*. In this way a uniform heating is obtained which is transmitted by conduction through the tin foil wall of the baking case or container *h* to the coil of hair contained in the latter. As the hair and the layer of wadding *g* are moist, steam is liberated inside the case which protects the hair from the objectionable effects of a dry heat and at the same time assists waving. This steam cannot escape from the case through the slot *k* which is closed in a fluid tight manner by the lock of hair which passes through it and forms a plug with the coating material mentioned above.

When it is desired to wave only that part of the hair near the roots, for example, in order to touch up a head of hair which is still suitably waved, the part of the lock which does not need to be rewaved is wound dry upon the curler *a*; it is covered with a sheet of tin foil interposed between two turns of hair like the sheet *d* in Figure 2 and then the remainder of the lock of hair is moistened and wound as far as the roots and then surrounded with a case as described above. During the heating operation only the outer moistened part of the coil of hair undergoes the action of the heat while the inner dry part which is protected by the interposed sheet of tin foil is not affected and preserves its original wave. It is also possible when the hair is very long to wind the lock of hair only from the middle and to allow the unwound portion to pass out of one end of the case which is then closed by a suitable ligature.

The heating clips *n* are provided with insulating handles *s* which permit them to be manipulated without danger of burning oneself.

Naturally the formation of the case described above may be modified more or less

and also the form and nature of the parts without departing on that account from the scope of the invention.

I claim:

1. Apparatus for permanently waving hair comprising a cylindrical core about which a lock of hair is adapted to be wound, and a casing enclosing the hair on the core including gripping means and two leaves of flexible material the edges of which are clamped about the hair on the core by the gripping means and the leaves being wrapped in opposite directions about the hair on the core and the gripping means and having the side edges thereof folded within the edges of the core.

2. Apparatus for permanently waving hair comprising a cylindrical core about which a lock of hair is adapted to be wound, and a casing enclosing the hair on the core including two leaves of flexible material, a clip fastening the adjacent edges of the leaves to the hair on the core, the leaves being wrapped in opposite directions about the hair on the core and about the clip and having the side edges thereof folded within the edges of the core.

3. Apparatus for permanently waving hair comprising a cylindrical core about which a lock of hair is adapted to be wound, a casing enclosing the hair on the core including gripping means and two leaves of flexible material the edges of which are clamped about the hair on the core by the gripping means and the leaves being wrapped in opposite directions about the hair on the core and the gripping means and having the side edges thereof folded within the edges of the core, and heating means arranged about the casing.

4. Apparatus for permanently waving hair comprising a cylindrical core about which a lock of hair is adapted to be wound, a casing enclosing the hair on the core including gripping means and two leaves of flexible material the edges of which are clamped about the hair on the core by the gripping means and the leaves being wrapped in opposite directions about the hair on the core and the gripping means and having the side edges thereof folded within the edges of the core, means for sealing the edges of the sheets at the point where the hair leaves the casing, and heating means arranged about the casing.

5. Apparatus for permanently waving hair comprising a cylindrical core about which a lock of hair is adapted to be wound, a casing enclosing the hair on the core including two leaves of flexible material, a cylindrical clip of malleable metal fastening the edges of the sheets to the hair on the core, a lining of absorbent material for the clip, the sheets being wrapped about the hair on the core and about the clip and having the

marginal side edges folded within the ends of the cylindrical core, means for sealing the opening of the casing through which the hair projects, and means applied about the casing for electrically heating the hair enclosed within the casing.

6. Apparatus for permanently waving hair comprising a cylindrical curler about which a lock of hair is adapted to be wound, a casing enclosing the hair on the curler including two leaves of metal foil, a comb-shaped substantially cylindrical clip of malleable material for fastening the sheets to the hair on the curler, a lining of absorbent material for the clip, the leaves being wrapped in opposite directions so as to enclose the hair on the curler as well as the clip and having their side edges folded to lie within the edges of the curler, means for sealing the opening in the casing through which the hair projects, and an electrical heating clip fitted about the casing.

7. In an apparatus for permanently waving hair, the combination of a curler, a pair of leaves of metal foil adapted to be wound around said curler, a comb-shaped, substantially cylindrical clip of malleable metal for securing hair coiled on said curler, and an electrical heating clip adapted to fit around said malleable clip.

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