

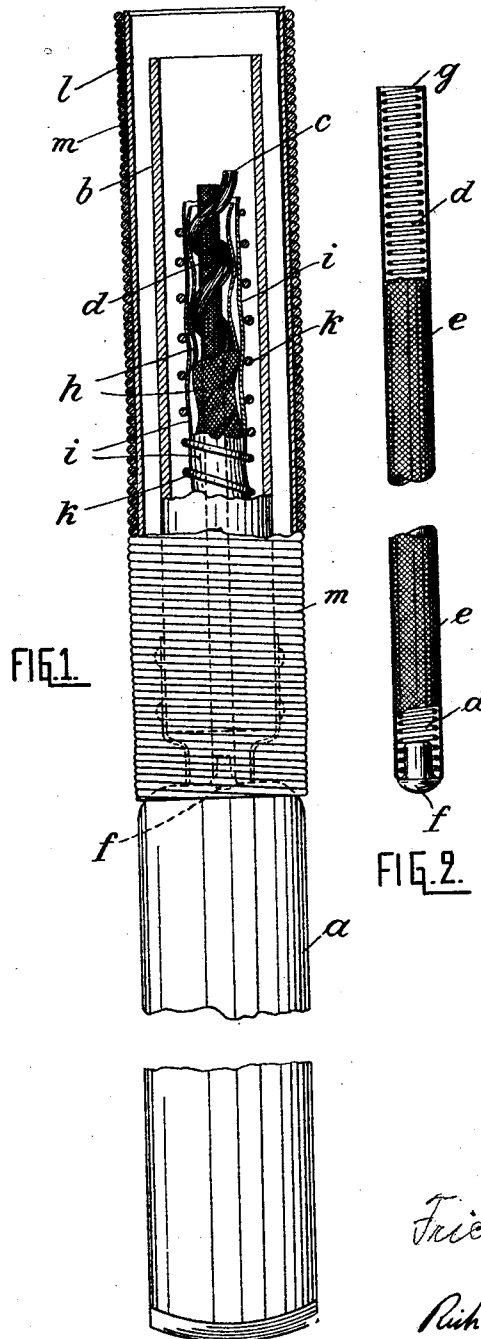
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F. GRIESER

METHOD AND APPARATUS FOR PRODUCING PERMANENT WAVES

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INVENTOR:
Friedrich Griesser
Richards & Geier Atys.

UNITED STATES PATENT OFFICE.

FRIEDRICH GRIESER, OF BERLIN, GERMANY.

METHOD AND APPARATUS FOR PRODUCING PERMANENT WAVES.

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This invention relates to improvements in the art of treating hair, and has particular reference to a method and apparatus for producing permanent waves.

5 An object of the invention is to securely maintain a strand of hair in curled position upon a permeable tube while treating said strand with a liquid introduced into the tube and also applying heat to the strand by the
10 insertion of the tube into a heating element.

Another object resides in applying a treating liquid to a curled strand of hair both from the interior of a tube upon which said strand is wound and also from a cover which
15 encircles said strand, and simultaneously applying heat to the strand.

A further object is to provide an improved apparatus of simple and practical construction by means of which the hair may be per-
20 manently waved without injury thereto.

The above and other objects will appear more clearly from the following detail description, when taken in connection with the accompanying drawing, which illus-
25 trates a preferred embodiment of the inventive idea.

In the drawing—

Figure 1 is a side elevation, partly broken away and shown in section, of the apparatus
30 constructed in accordance with the invention; and

Figure 2 is a fragmentary enlarged elevation, partly in section, of the tube upon which a strand of hair is wound.

35 Briefly, the invention consists in winding a strand of hair about a permeable tube into which a treating liquid may be introduced, the tube being permeable to permit said liquid to pass through the tube and on to
40 the strand of hair.

A cover which may also be saturated with the treating liquid is wrapped about the strand and this cover is enclosed in an outer cover of impermeable material about which
45 a flexible element, such as a wire or the like, may be wound in order to tightly bind the strand to the tube. The parts are then positioned within a heating element which is enclosed in an outer heat insulated casing
50 which protects the scalp from coming in contact with said heated element. Should the treating liquid become wholly or partially evaporated due to the action of the heat, the tube upon which the strand of hair is
55 wound may have injected therein a further supply of the liquid and in this manner the

hair will be protected against being scorched and becoming broken or otherwise seriously injured.

Referring more particularly to the draw- 60 ing, the character *a* indicates the handle of the apparatus upon one end of which is suitably mounted the tubular heating element *b* which is usually made of iron and which may be heated in any desired manner
65 prior to the introduction of a strand of hair into the element.

A mounting upon which the strand of hair to be waved is wound comprises a tubular member, preferably consisting of a coil
70 spring *d* enclosed within a casing *e* made of some suitable permeable material and upon which the strand of hair *c* is wound, as shown in Figure 1. One end of the tube is closed by means of a plug *f* so that a treating
75 liquid may be introduced into the tube through the open end *g* thereof. The filling of the tube may be accomplished in any suitable manner, as by means of a sprayer
80 or the like. With the strand of hair wrapped about the casing *e* said liquid will gradually seep through the casing and on to the hair to be curled.

After winding the hair upon the tube an inner cover *h* of cloth or other suitable ma- 85 terial, which may also be moistened or saturated with the treating liquid, is wrapped around the strand *c* and an outer cover *i* made of some desirable impermeable material, such as parchment or the like, is then
90 drawn over the inner cover *h*. A wire *k* or other flexible binding means is then coiled about the outer cover *i* so as to tightly wrap the covers *h* and *i* about the strand *c* and thus bind the latter in permanent position
95 upon the tube. The wire *k* may be of some heat conducting material so as to afford a better distribution of heat.

With the strand of hair thus wound upon the tube and held in position thereon the
100 various elements so far described are inserted into the previously heated element *b* so as to extend longitudinally thereof and in spaced relation thereto and thereupon an outer protective casing *l* is mounted over the
105 tube *b*. The casing *l* is of sufficient length to entirely enclose the heating element *b* to prevent its contact with the scalp and said casing is provided throughout its length with an outer winding *m* of insulated material.
110

The strand of hair is now heated by the element *b* with the aid of the binding means

5 *h* and during this heating, should the liquid
 in the tube *e* and the cover *h* become wholly
 or partially evaporated, additional liquid
 may be injected into the tube so that more
 10 of the liquid will come into contact with
 the strand of hair and thus prevent injury
 thereto by reason of the heat. To facilitate
 the seepage of the liquid through the tube
 or casing *e* the coil spring may be expanded
 15 to space the convolutions thereof and thus
 permit the liquid to more readily come in
 contact with said casing.

In addition to being used for the purpose
 of producing permanent waves, the appa-
 20 ratus of the present invention can also be
 used for flattening out wavy or curly hair,
 since to do this merely involves the proper
 positioning or winding of the strand *c* upon
 the tube and treating said strand by the
 present method.

What is claimed is:

1. An apparatus for producing permanent
 waves, including a tube upon which a strand
 25 of hair may be wound, a cover for said
 strand wrapped about the same and adapted
 to be moistened with a treating liquid, and
 a pre-heated heating element for receiving
 said tube, strand and cover.

2. An apparatus for producing permanent
 30 waves, including a flexible tube upon which
 a strand of hair may be wound, a cover for
 said strand wrapped about the same and
 adapted to be moistened with a treating
 liquid, a heat conducting wire wound about
 35 said cover for binding said strand to said
 tube, and a heating element enclosing said
 strand.

3. An apparatus for producing permanent
 waves, including a flexible tube upon which
 40 a strand of hair may be wound, a cover
 for said strand wrapped about the same and
 adapted to be moistened with a treating
 liquid, a heat conducting wire wound about
 said cover for binding said strand to said
 45 tube, a heating element enclosing said
 strand, and a heat insulated casing enclos-
 ing said heating element in spaced relation
 thereto.

4. An apparatus for producing permanent

waves, including a flexible permeable tube
 50 closed at one end to form a receptacle for
 the reception of a treating liquid and upon
 which a strand of hair is adapted to be
 wound, means binding said strand to said
 tube, and a heating element for enclosing
 55 said strand.

5. An apparatus for producing permanent
 waves, including a permeable tube adapted
 for the reception of a treating liquid and
 upon which a strand of hair is to be wound,
 60 a cover for said strand wrapped about the
 same and also adapted to be moistened with
 said liquid, an impermeable cover about the
 first named cover, flexible binding means ex-
 tending around the second named cover
 65 for securing said strand upon said tube, and
 a heating element enclosing said strand.

6. An apparatus for producing permanent
 waves, including a permeable tube adapted
 for the reception of a treating liquid and up-
 70 on which a strand of hair is to be wound, a
 cover for said strand wrapped about the
 same and also adapted to be moistened with
 said liquid, an impermeable cover about the
 first named cover, a heat conducting ele-
 75 ment wound about said impermeable cover
 to bind said strand to said tube, and a heat-
 ing element enclosing said strand.

7. An apparatus for producing permanent
 waves, including a permeable tube closed
 80 at one end to form a receptacle for the re-
 ception of a treating liquid and upon which
 a strand of hair is adapted to be wound and
 become moistened by said liquid, said tube
 consisting of a spiral spring and a per-
 85 meable casing therefor, a cover for said
 strand wrapped about the same and also
 adapted to be saturated with said liquid,
 a second cover of impermeable material
 wrapped about the first named cover, heat
 90 conducting means extending around the sec-
 ond named cover for binding said strand in
 permanent position on said tube, and a heat-
 ing element enclosing said strand.

In testimony whereof I have affixed my
 95 signature.

FRIEDRICH GRIESER.