[Second Edition.]

PATENT SPECIFICATION

Application Date: Feb. 4, 1925. No. 3135/25. 251,688

Complete Accepted: May 4, 1926.

COMPLETE SPECIFICATION.

Improvements in or relating to Permanent Hair Waving Appliances.

I, JOSEF MAYER, of Alte Wiese 76, Karlsbad, Czecho-Slovakia, a citizen of Yugo-Slavia, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to permanent hair waving processes of the kind in which the hair is formed into flat strands, each of which is secured, at the end furthest from the roots, to a curler of substantially circular cross-section, and wound thereon, each turn being laid upon the preceding turn. The strands are then generally moistened with a suitable solution, and wrapped first in material such as flannel impregnated with the solution, and then in waterproof material. The curled and wrapped strands are then heated, preferably in a longitudinally divided cylindrical heater, comprising two semi-cylindrical heating bodies which can be opened by means of spring closed scissor-like handles to permit the lateral insertion of the wrapped and coiled strand of hair.

By the term "flat" strand is meant a strand in which the hairs lie parallel to each other and side by side in substantially a flat plane, instead of being bunched together into a strand of substantially circular cross-section as is frequently the case.

The invention has for its main objects to eliminate all binding, and to provide efficient means for protecting the scalp from the vapours of the waving solution, and from the influence of the heater.

With the above objects in view according to the present invention, in a permanent hair waving process of the kind set forth, the preparation of the hair prior to winding on a curler, includes the step of clamping the hair in a flat strand near the roots between the edges of metal or other rigid flat bars hinged together at one end and provided with means for fastening the other ends together, and preferably it includes the further step of applying to the clamped hair strand between the clamping device and the roots of the hair, a second clamping device constructed to form a heat insulating screen between the first clamping device and the head.

After application of the above mentioned devices, the hair may be moistened or impregnated with a solution made substantially in the following manner:—

In 1 litre of water are dissolved 50 grams of bicarbonate of soda and 12 grams of carbonate of magnesia. Heat is used to facilitate the solution, but the liquid is, however, applied cold.

The hair is then wound over a suitable curler in known manner aforesaid, and submitted to further preparation as follows:—

First of all, a small piece of flannel impregnated by the above described liquid is placed over the coiled hair. Waxed paper is applied over this piece of flannel and the paper wrapped over with a sheet of parchment, all substantially in known manner and finally, according to another feature of the invention, a longitudinally divided resilient metal tube is placed over the parchment wrapper. By wrapping the hair in the piece of flannel saturated with the impregnating liquid, the hair is subjected to the influence of the impregnating medium throughout the treatment. The waxed paper prevents the vapours from escaping and forces them to act energetically on the hair, whilst it also serves to seal the wrapping to the hair at both ends. The waxed paper being somewhat fragile, however, it must be

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protected by a parchment covering in order to prevent damage thereof.

The resilient metal tube conducts heat comparatively well from the heater to the parchment wrapper, and being resilient, is flexible and yet maintains its shape sufficiently well to accommodate itself to different thicknesses of wrapping and hold the wrappings securely in position. Sheet metal, such as sheet aluminium, or the like, is a very suitable material.

In carrying the invention into practice the clamping device which protects the scalp in the region of the hair strands to be treated may comprise two plates covered by woollen cloth as, for instance, flannel. This woollen or felt-like cloth should be capable of absorbing vapour and may be impregnated, in order to enhance the effect, by solutions which increase its capacity of absorption. The exterior woollen cover is best wrapped over an impermeable plate consisting of fibre, hard rubber or like material.

In order that the invention may be clearly understood and readily carried into practice, I have appended hereto two sheets of drawings, illustrating the same, wherein :—

Figures 1 and 2 are plan and sectional views respectively illustrating a protecting clamp according to the invention,

Figure 3 is a plan view of the hermetic clamp,

Figure 4 is a perspective view of a suitable heating device,

Figure 5 is a perspective view of the curler employed,

Figure 6 is a perspective view of the resilient metal tube,

Figure 7 is a cross-sectional view of the curler showing a strand of hair and its wrappings, and the positions of the clamps in relation to the scalp,

Figure 8 is a perspective view of the prepared strand of hair, and its wrappings, with parts broken away to show the positions of the different layers.

Referring to Figures 1 and 2, the body portion *a* of the protecting clamp is made of an impervious material, such as hard rubber, fibre, leather, or the like, and is covered with a woollen-like absorbent cloth *b*. The two bars *c* and c^1 are held together at one end by a link which serves as a hinge and may consist of a strip of rubber *d*. The two free ends are adapted to be held together by a rubber ring *e*, a loop or other suitable means, after the clamp has been applied.

The hair tresses are further screened off from the head by a second clamp, closing hermetically, which is illustrated in Figure 3. In order to obtain an hermetic closure, the bars *f*, f^1 are formed of metal or other rigid material which are joined together by a resilient hinge *g*. Elasticity is obtained by pivoting the bar f^1 on a pin *i* which, through the intermediary of the spring *k* presses on to part *h*, thus pressing the two bars *f* and f^1 closely together near the hinge *g* at the same time allowing for expansion near the link. When a thick hair strand is inserted between the edges of the bars, the hinge *g* gives way and ensures by its resilience that uniform pressure is obtained upon the whole width of the hair strand and along the whole length of the bars, whereby screening is uniformly obtained over the whole length of the bars. The bar f^1 is provided with a stepped end k^1 which co-operates with a loop *l* attached to the end of bar f^1, to hold the two bars together. The steps k^1 permit the bars being closed to an extent which agrees with the spacing of the bars at the hinge. Thus the operative edges of the bars *f* & f^1 can be made parallel, as is desired.

The bars *f* and f^1 are covered with asbestos to provide electric insulation, and over the layer of asbestos a flannel covering is provided which also serves as an absorbent medium.

After the two clamps have been placed in position the flat strand of hair 3 is moistened with a suitable solution such as hereinbefore indicated and then secured by means of a spring finger 2 to a curler 1 of substantially circular cross-section, and wound thereon, each turn being laid over the preceding turn. Over the coiled strand 3 is placed a piece of flannel 4 impregnated with the aforesaid solution. Waxed paper 5 is applied over this piece of flannel, the paper being wrapped over with a sheet of parchment 6, and finally a longitudinally divided resilient metal tube 7 is placed over the parchment wrapper 6, to preserve its shape and to conduct heat uniformly from the heating device to the hair.

After the preparation of the hair as aforesaid the permanent waving process is continued by subjecting the wrapped and coiled hair to the action of heat in known manner. For this purpose an electric heating apparatus is most suitably employed, which apparatus, however, forms no part of this invention. It must however be in the form of a longitudinally divided cylinder and it should be able to act over the whole length of the hair strand equally, in order to carry the process through uniformly. Such a heating device is illustrated by Figure 4 of the drawings, and comprises semi-cylindrical heating bodies *m* m^1 which

can be opened sufficiently by means of scissor-like handles p p^1 to enable the heating device to be passed over the curler with the hair wound thereon, the hair between the head and the curler passing between the edges of the bodies m m^1.

In use the heating appliance should remain for some 12 to 15 minutes on the wrapped-up hair strands, and any uncomfortable warmth for the head may be dispelled by a current of air.

After removal of the heating appliance, the hair strands are moistened with a solution consisting of 900 grams of water, 100 grams acetic acid, 2 grams of tartaric acid and a few drops of nitro-benzole. After such moistening the hair may be washed in the usual way, but this is not necessary for the production of permanent hair waves.

A number of heating appliances are required and they are best placed on a stand, from which they may hang by cables serving also to conduct the current, in such a way as to be adjustable in height.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is :—

1. In a permanent hair waving process of the kind set forth, the preparation of the hair prior to winding on a curler, including the step of clamping the hair in a flat strand near the roots between the edges of metal or other rigid flat bars hinged together at one end and provided with means for fastening the other ends together.

2. The preparation of the hair according to Claim 1, including the further steps of applying to the clamped hair strand between the clamping device and the roots of the hair, a second clamping device constructed to form a heat insulating screen between the first clamping device and the head.

3. In a permanent hair waving device of the kind set forth, the preparation of the hair prior to heating including the step or steps set forth in Claim 1 or 2, and the further step of enclosing the coiled and wrapped hair in a longitudinally divided resilient metal tube, which serves as a good conductor of heat between the hair and the heating device.

4. Apparatus for carrying out the process according to Claim 2, wherein the second clamping device is made of rubber, fibre or similar material, covered with an absorbent woollen cloth, as felt, or the like, and joined together at one end, say by a strip of rubber, whilst their other ends may be closed together by a loop or other means.

5. Constructional form of the clamp used in the process according to Claim 1, wherein metal bars (f and f^1) are yieldingly held together by a resilient hinge (g, h, i and k) so that the bars are mutually adjustable into parallel disposition irrespective of the thickness of the strand lying between its edges.

6. Constructional form of the resilient metal tube used in the process claimed in Claim 3, consisting of a longitudinally divided perforated aluminium tube.

7. The preparation, and apparatus for the preparation of the hair for permanent waving, substantially as herein described with reference to, and as illustrated by, the accompanying drawings.

Dated this 4th day of February, 1925.

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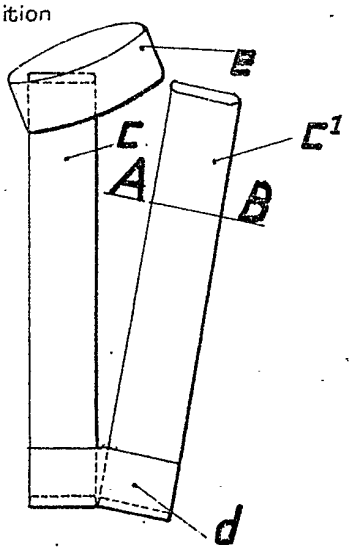


Fig. 1

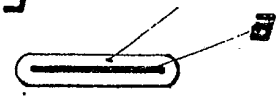


Fig. 2

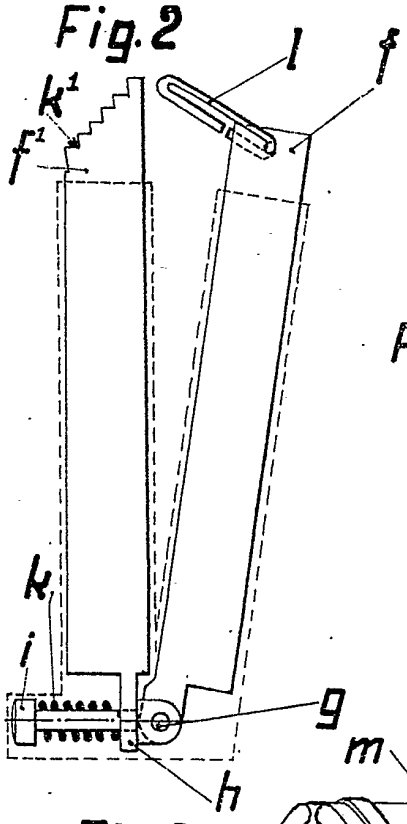


Fig. 3

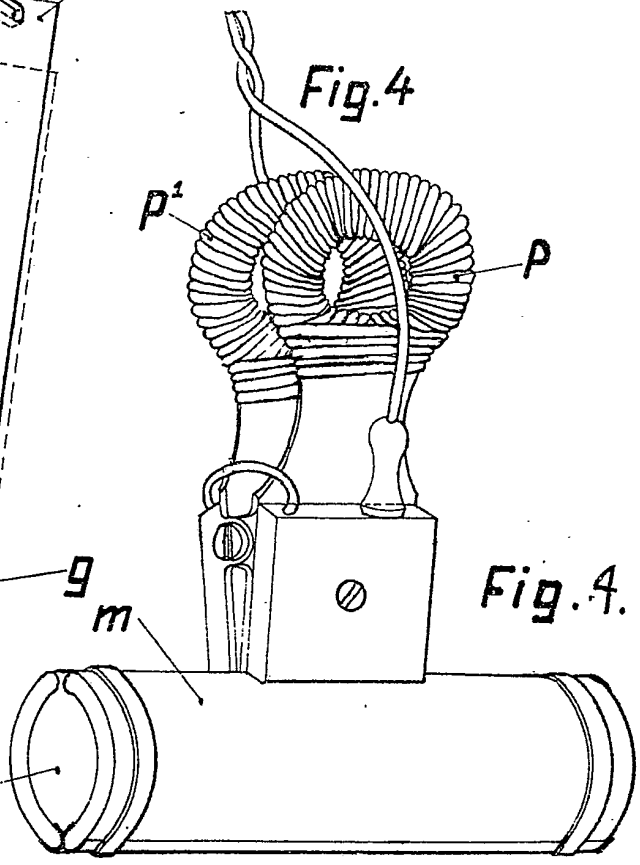


Fig. 4.

F

Fig. 7.

3-

Fig. 5.

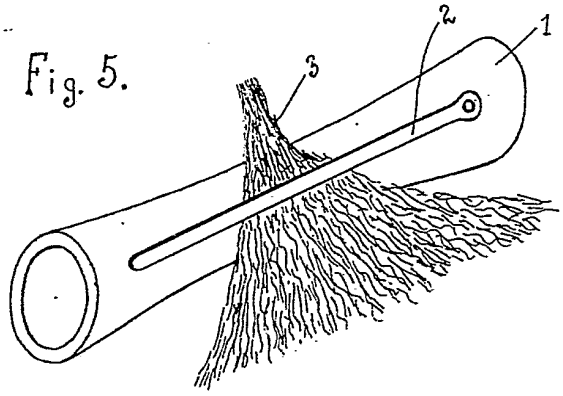


Fig. 6

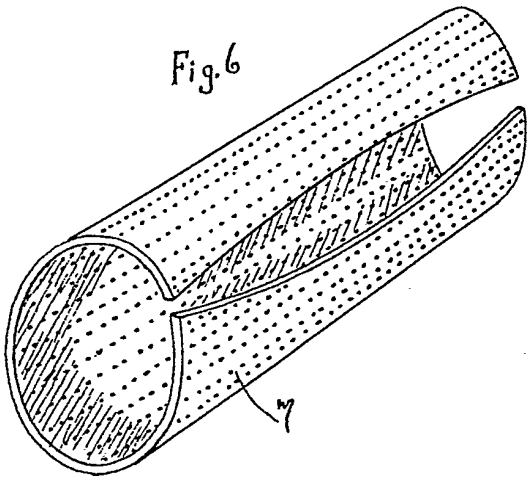


Fig. 7.

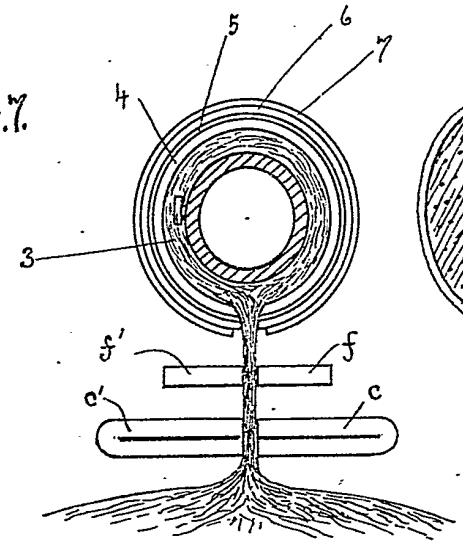
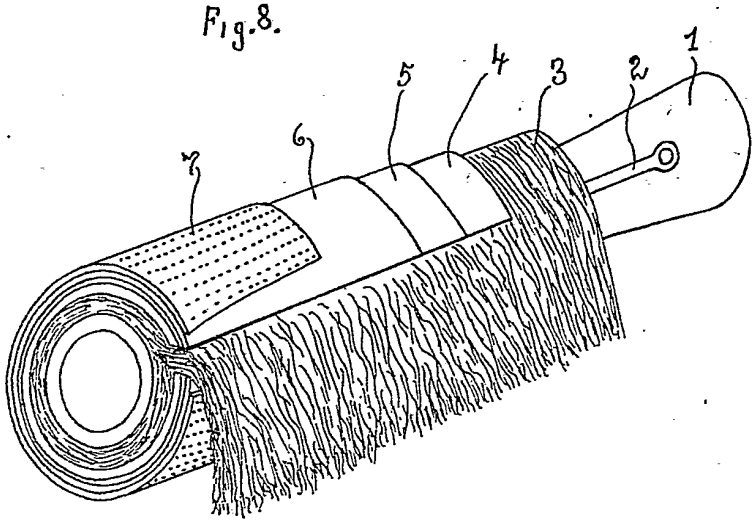


Fig. 8.



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251,688 COMPLETE SPECIFICATION
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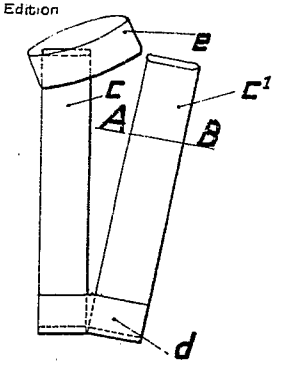


Fig. 1

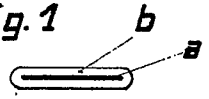


Fig. 2

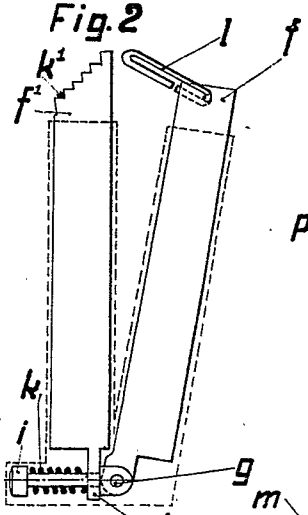


Fig. 3

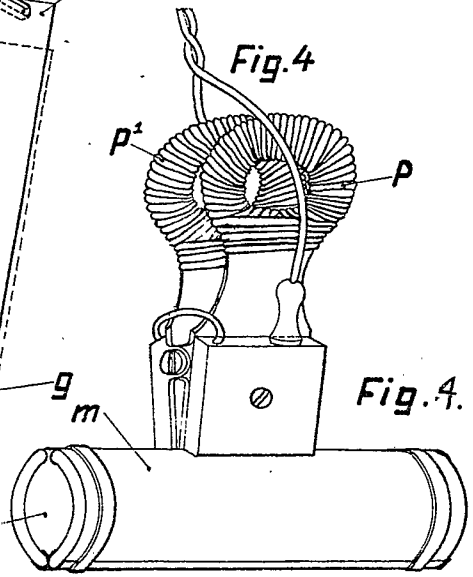


Fig. 4.

Fig. 5.

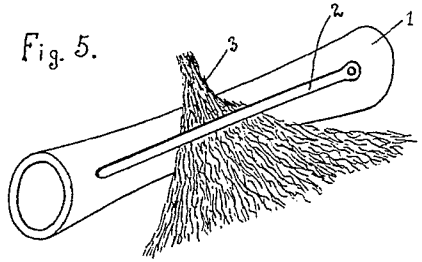


Fig. 6

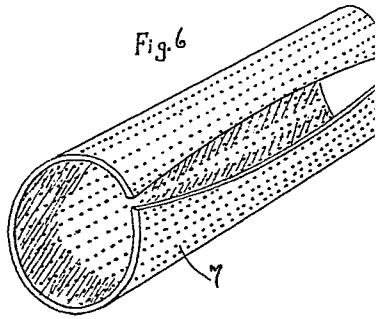


Fig. 7.

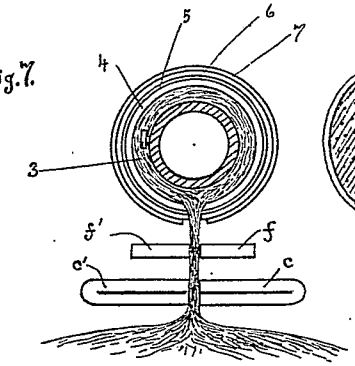
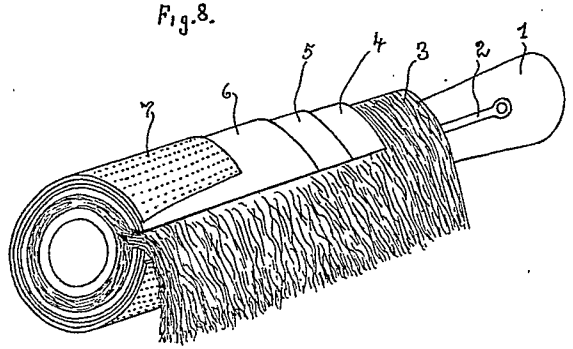


Fig. 8.



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