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E. O. FREDERICS

2,146,254

CURLER

Filed April 9, 1935

Fig. 1.

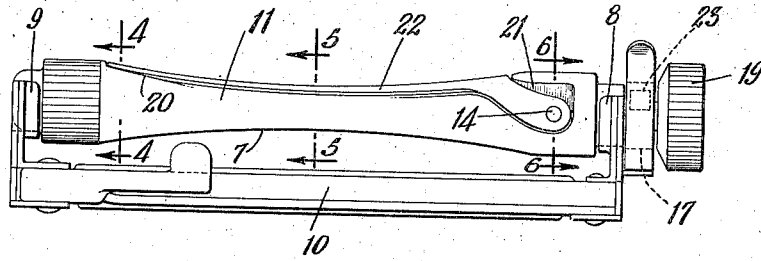


Fig. 2.

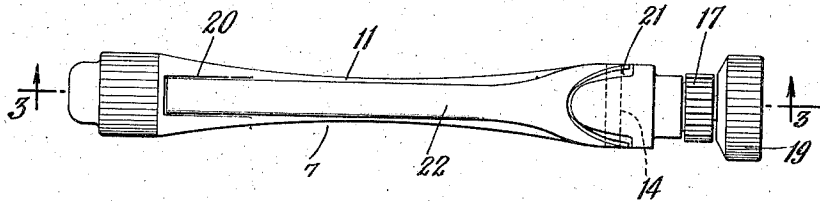


Fig. 3.

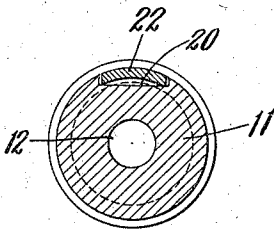
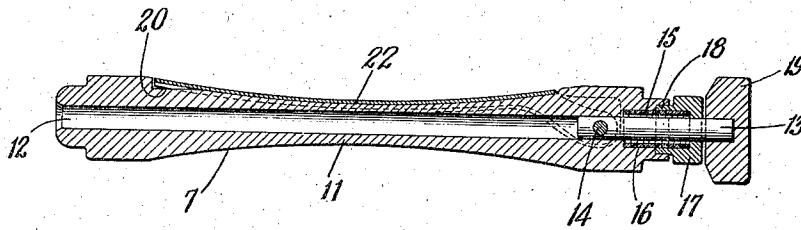


Fig. 4.

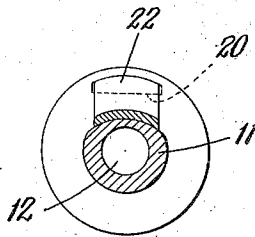


Fig. 5.

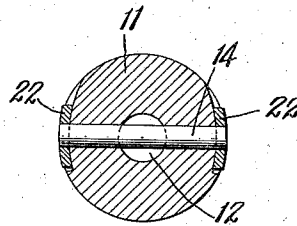


Fig. 6.

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CURLER

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3 Claims. (Cl. 132—33)

This invention relates to hair waving devices, and particularly to the devices, commonly known as curlers, upon which the hair is wound in the process of so-called "permanent" waving. In this process, a tress of hair is wound upon a small straight rod, usually of aluminum, after which it is treated with chemicals and heat, to cause the hair to retain the curl thus imparted. In certain methods of waving, the hair is wound spirally upon the curler, while in the method known as "Croquignole" waving the hair is wound in successive layers, one upon the other, upon a short curler, with the outer end of the tress next the curler.

In the Croquignole method, a protective clamp is used, a tress of hair being inserted in the clamp and the latter fastened upon the hair adjacent the scalp. The curler, after being wound with hair, is fastened to the aforesaid clamp in such a way that the hair cannot unwind or loosen, after which the heat and chemicals are applied. The curlers heretofore used for this purpose have been provided with a lever for fastening the end of the tress to the curler, which lever has constituted a projection upon the otherwise smooth surface of revolution. This form of device has the disadvantage of causing irregularities in the wave, due to the fact that the surface against which the hair rests is not uniform.

An object of the present invention is the provision of a curler of novel form, for use in the Croquignole process, having improved means for fastening the hair to the curler, arranged in such a manner as to produce a wave of uniform appearance and without the aforesaid irregularities. Other and further objects, features and advantages will appear from the description which follows, together with the accompanying drawing in which

Fig. 1 is a side elevation of the curler of the present invention, in position in its complementary clamp;

Fig. 2 is a plan of the curler of Fig. 1;

Fig. 3 is a section on line 3—3 of Fig. 2;

Fig. 4 is a section on line 4—4 of Fig. 1;

Fig. 5 is a section on line 5—5 of Fig. 1; and

Fig. 6 is a section on line 6—6 of Fig. 1.

Referring to Fig. 1, a curler 7 is illustrated as seated in bearings 8 and 9, carried by a protective clamp 10. The construction of the clamp 10 is not a part of the present invention, and will not be described in detail, but the clamp 10 may be of any suitable construction, of which several are well known.

The curler 7 is seen to comprise a barrel 11, which may be a true cylinder but is preferably concaved as shown. The barrel 11 is provided with a central opening 12, into which a stud 13 projects and is fastened by means of a transverse pin 14 (Figs. 3, 6). A helical spring 15 surrounds the stud 13 and lies partly within an annular recess 16 formed in the adjacent end of the barrel 11. A toothed wheel 17 is journaled upon the stud 13, and is provided with an annular flange 18 which surrounds the projecting portion of the spring 15. A knurled handle 19 is rigidly secured upon the outer extremity of the stud 13.

Referring to Figs. 3 and 5, it will be seen that the barrel 11, adjacent its central portion, is partially flattened on top, and near one end is provided a depression 20. A depression 21, having two diverging branches, is formed near the opposite end of the barrel 11. A bifurcated lever 22 is pivoted upon the projecting ends of the pin 14 (Fig. 6), and is arranged so that its extremities conform to and lie within the depressions 20 and 21, while its central portion conforms to and lies against the partially flattened portion of the barrel 11 (Fig. 5). The lever 22 is preferably of such form as to complement the barrel 11 to form a shape of substantially circular cross-section throughout.

In using the curler, the ends of the tress of hair to be curled are inserted between the lever 22 and the barrel 11, the curler then being revolved to wind up the hair. The inward pressure thus exerted upon the lever 22 causes the latter firmly to grip the hair ends against the barrel 11. When the tress has been wound upon the curler so that the latter is brought quite close to the scalp, the curler is seated in the bearings 8 and 9 of the clamp 10. The curler and hair may then be tightened in place by grasping the handle 19 and rotating the curler one or two turns, or a fraction of a turn, as the case may be, in the direction to tighten the hair. The engagement between the barrel 11 and toothed wheel 17, through the spring 15, prevents more than a slight relative rotation therebetween, in a direction to loosen the hair, and rotation of the whole is prevented by a pawl 23, carried by the clamp 10, which engages the toothed wheel 17.

The curler is thus maintained securely in the clamp, and the hair is wound tightly upon the curler, ready for the application of the waving chemicals. It will be appreciated that, because of the form given to the barrel 11 and lever 22,

the smooth curves of the hair, due to the winding, are not broken by irregularities as would be the case if the barrel 11 were of circular cross-section throughout, and the lever 22 superimposed thereon. The resulting wave is therefore more regular in form and more pleasing to the eye.

The terms and expressions employed herein are used for purposes of description and not of limitation. It is recognized that many modifications of the construction disclosed may be made within the scope of the present invention.

I claim:

1. In a hair curler, a barrel and a lever pivotally mounted thereon, said barrel having a portion of modified circular cross-section, at least a part of said portion having a continuous, smooth uninterrupted hair engaging surface extending completely around the same, and said lever having a shape complementary to said barrel to provide in closed position a curler whose outer surface is also continuous and smooth and is of substantially uniform circular cross-section.

2. In a hair curler, a barrel and a lever pivotally mounted thereon, said barrel being of modified circular cross-section and having a central portion formed with a continuous, smooth uninterrupted curved hair engaging surface extending completely around the same, said lever having a shape complementary to said barrel to provide in closed position a curler whose outer surface is also continuous and smooth and is of substantially uniform circular cross-section.

3. In a hair curler, a barrel of modified concaved cylindrical form and a clamping lever pivotally mounted thereon, said barrel and lever having complementary shapes cooperating in closed position to form a curler of substantially circular cross-section and having a continuous, smooth outer surface, a central portion of said barrel having a continuous, smooth curved hair engaging surface extending completely around the same, and the corresponding portion of said lever having a complementary concaved inner face.

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