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2,264,763

PROTECTOR CLAMP AND CURLER

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Fig. 2.

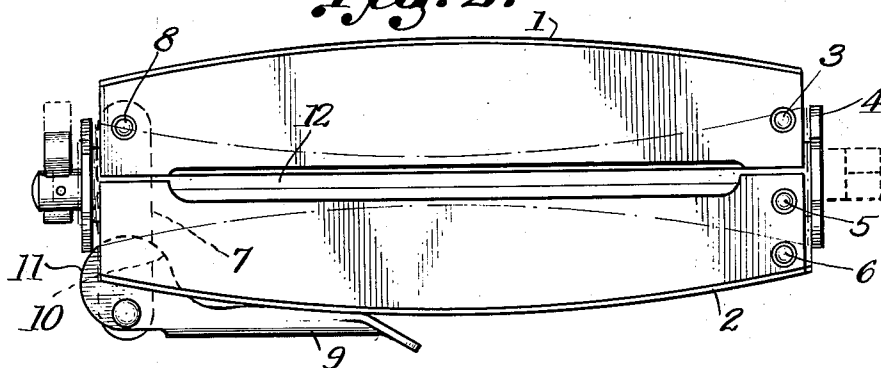


Fig. 3.

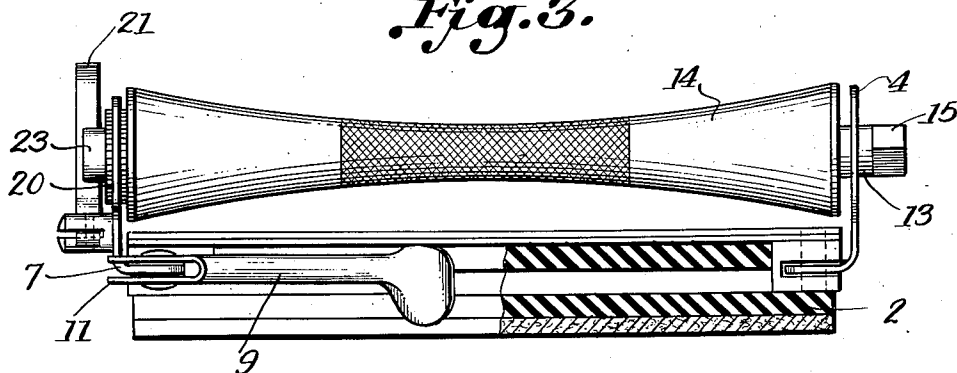
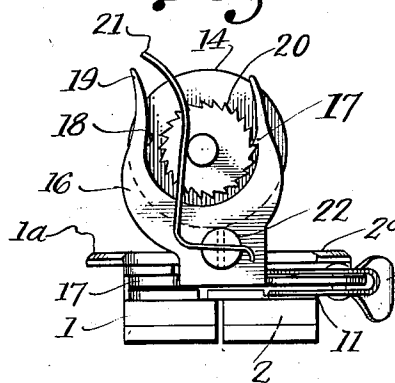


Fig. 1.



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PROTECTOR CLAMP AND CURLER

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3 Claims. (Cl. 132-33)

This invention relates to new and useful improvements in protector clamps and curlers for the permanent waving of hair, and it is among the objects thereof to provide a simple and efficient ratcheting mechanism which is effective in applying tension to the strands of hair and is quickly released when it is desired to remove the curler rod from the protector clamp.

Another object of the invention is the provision of ratcheting mechanism which is exposed in all its parts to make it accessible for cleaning and operating the same.

The invention will become more apparent from a consideration of the accompanying drawing constituting a part hereof in which like reference characters designate like parts and in which:

Fig. 1 is an end elevational view of a protector clamp and curler rod embodying the principles of this invention;

Fig. 2 is a bottom plan view of the protector clamp.

Fig. 3 is a side elevational view of the protector clamp and curler rod, partly in section.

With reference to the several figures of the drawing, the structure therein illustrated comprises a pair of clamping bars 1 and 2 of metal, felt, rubber, or other gripping substance between which the strands of hair are placed, the bars 1 and 2 being hinged at 3 so that they may be spread. An end bracket 4 is secured to the bar 2 by rivets 5 and 6 and an end bracket 7 is attached to the bar 1 by pivot pin 8, the bracket 7 constituting a link on the free end of which a cam lever 9 is mounted. Bar 2 is cut-out at 10 to accommodate the cam face 11 of lever 9 which brings the clamping bar 2 in intimate engagement with the bar 1, the hair strands being distributed between the clamping bars throughout the length of the slotted portion 12 of the clamp bars, the slotted portion extending only through the metal tops 1a and 2a of the bars 1 and 2.

The end bracket 4 is provided with a slot for receiving the milled end 13 of a curler rod 14, a square 15 being provided adjacent the mill portion 13 to receive a turning key. The rod 14 may be mounted on or removed from the bracket 4 by merely lifting it in the slot of the bracket 4.

The end bracket 7 is provided with a substantially crescent-shaped wall portion 16 having a ratchet pawl 17 formed on one side of the inner curved face 18, the top of the member 16 terminating in prong-like projections 19 which act as a guide for the ratchet wheel 20 of the curler rod 14.

A spring 21 is fastened on a lug 22 of the end

bracket and engages a milled end 23 of the curler rod. In operation the hair strands are wound on a rod 14 by hand by turning the rod in a counter-clockwise direction, and as the strands wind on the rod the rod moves in the direction of the protector clamp until the rod rests on the end brackets 4 and 7. By inserting the key on the square end 15, the rod is further turned with the teeth of ratchet wheel 20 slipping against the rigid pawl 17 to obtain any desired tension on the hair strands. As shown in Fig. 1, the axis of the curler rod 14 is offset from the center of the clamp, the purpose of which is to utilize the tension of the hair after it is wound-up to bias the ratchet wheel 20 against the curved end bracket on the side of the stationary pawl 17, and once this tension acts upon the curler rod, spring 21 would not be needed as it has no retaining function, except when in the initial stages of winding the hair after the curler rod is placed on the protector clamp it takes the place of the hair tension in guiding or holding the ratchet wheel against the rigid pawl.

The curled hair is then heated in any suitable manner as by electric heater clamps or by the use of chemical heating pads.

After the heating has been carried on for a period estimated to be sufficient for the particular texture of hair, the operator may remove the heating element, and by slipping the curler rod out of the ratchet, unwind the hair sufficiently to see whether the heating has been effectively carried out or if it should be prolonged.

It is a simple matter to rewind the strands and insert the curler rod into the ratchet of the protector clamp if the heating step is to be continued after inspection.

By the use of the spring 21, the ratchet wheel 20 is urged against the side of the bracket having the stationary pawl 17, and since the rod is wound against the pawl, the curler rod will always retain its position in the protector clamp with the strands of hair under adequate tension.

Although one embodiment of the invention has been herein illustrated and described, it will be evident to those skilled in the art that various modifications may be made in the details of construction without departing from the principles herein set forth.

I claim:

1. A protector clamp and curler for the waving of hair having a substantially crescent-shaped end bracket with a rigid ratchet pawl on one end thereof, a ratchet wheel for engagement with said pawl disposed within the cradle of the cres-

cent-shaped bracket, and spring means for urging said ratchet wheel against the side and bottom of the bracket and in intimate engagement with the ratchet pawl.

2. In a combined protector clamp and curler rod appliance for the permanent waving of hair, a pawl and ratchet mechanism consisting of a ratchet wheel mounted on the end of the curler rod and a seating cradle for said wheel on which the wheel rests, said cradle having a rigid pawl for engagement with the teeth of the wheel, and spring means abutting the curler rod adjacent the ratchet wheel to normally bias the wheel against the cradle in intimate engagement with the ratchet pawl.

3. In a combined protector clamp and curler rod appliance for the waving of hair, a plurality of clamping bars for clamping the hair strands adjacent the scalp, end brackets mounted on said

bars for receiving a curler rod, one of said brackets having a slotted opening for engaging the journal on one end of the rod and the other end bracket having a substantially cylindrical opening for engaging the periphery of a ratchet wheel, the said cylindrical surface having a rigid pawl for coaction with the teeth of a ratchet wheel, and a curler rod for winding the strands of the hair thereon seated in the end brackets of said protector clamp, said rod having a ratchet wheel of substantial diameter for seating on the cylindrical surface of the end bracket with its teeth in engagement with the rigid pawl of said bracket, the journals of the end brackets being offset relative to the clamping faces of the protector clamp whereby the tension of the hair urges the ratchet wheel of the curler rod against the rigid pawl of the end bracket.

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