March 25, 1952 A. ZACHARY 2,590,669

HAIR CURLER

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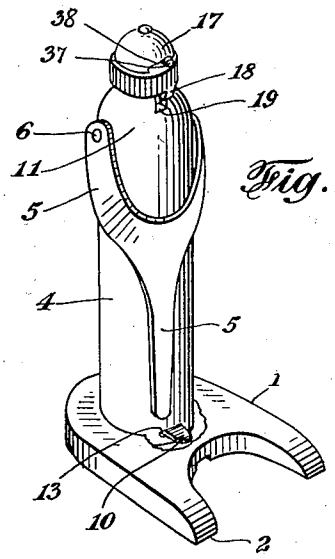


Fig. 1.

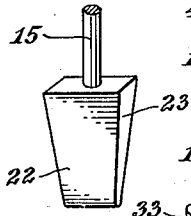


Fig. 8.

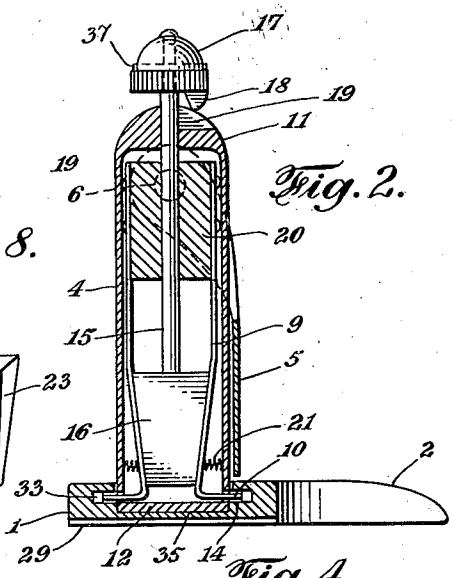


Fig. 2.

Fig. 4.

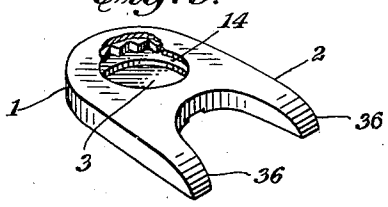
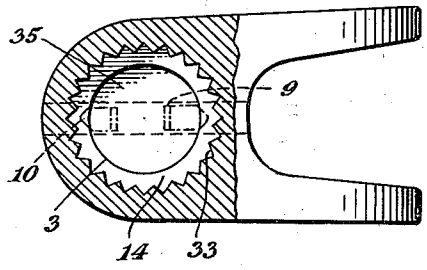


Fig. 3.



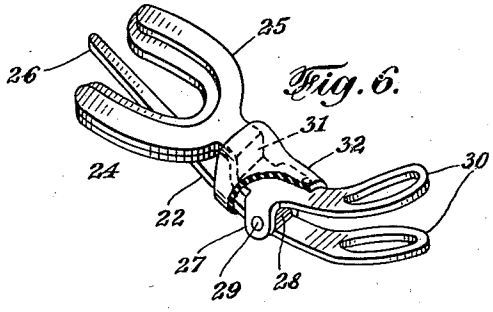


Fig. 6.

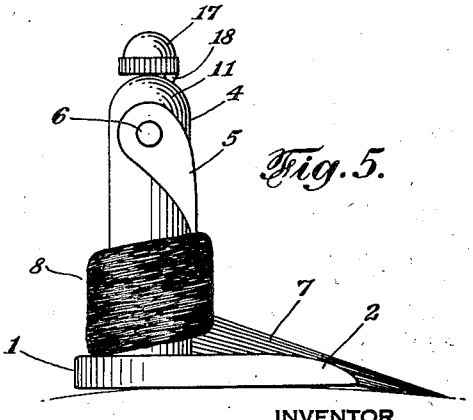
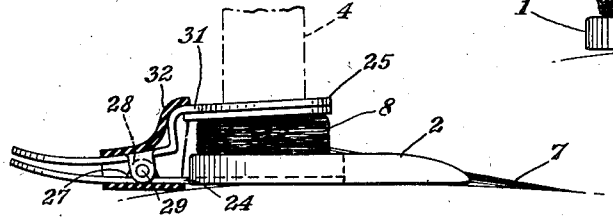


Fig. 5.

Fig. 7.



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HAIR CURLER

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5 Claims. (Cl. 132—33)

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This invention is an improvement in hair curlers of the type used in permanent waving, and more particularly a hair curler adapted to set the hair in ringlets.

An important object of this invention is to provide a hair curler comprising a detachable member which gives the hair the desired form, but which can be taken off in the final stages of the treatment; the process being completed without said member. The operator is thus enabled to work more effectively and to better advantage, and the comfort and convenience of the patron are increased.

Another object of this invention is to provide a curler adapted to facilitate the winding up of the hair, and the formation and drying of the curls quickly, with a great saving of time and labor.

The nature of the invention is made clear in the following description, taken with the drawings, which illustrate a preferred form which the invention may assume.

In general, the device of this invention includes a forked base member, a post rotatable on the base member, and clamping means on the post to secure a lock of hair in position. The post with the clamping element is detachable, so that the hair can be more easily washed and dried at the finish.

On the drawings:

Figure 1 is a perspective view, showing the base member with post attached.

Figure 2 is a longitudinal section thereof.

Figure 3 shows the base in perspective.

Figure 4 is a plan view of the base member partly in section.

Figure 5 is a side elevation, showing the device with a lock of hair wound on the post.

Figure 6 shows an accessory member, in perspective.

Figure 7 shows the device with the post removed and the accessory member clamping the hair on the base; and

Figure 8 is a view of a detail.

The implement comprises a U-shaped base having a body 1 with parallel foot projections 2 extending from one end. Adjacent the opposite end the base has a large round aperture 3 in its upper face, said aperture being closed at the bottom.

Rotatably attached to the base 1 is a hollow post 4 with one end in the aperture or bearing recess 3. Pivotally united to the other end of this post is a yoke-shaped arm 5 mounted on pivot pins 6 near the outer end of the post 4. This arm clamps the end of the hair, which is

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wound on the post 4, as shown in Figure 5. The arm is lifted and the end of the hair 7 is laid on the post. The arm 5 is then turned down to grip the hair, and the post is rotated to wrap the hair on the post and arm together. At other times the clamping arm 5 lies closely against the post and has a curved form to fit the exterior surface thereof. When in use, the base 1 rests against the patron's head and the hair 7 encircles the post 4 in a spiral 8.

The post 4 is united to the base by means of leaf spring catches 9, affixed at one end to the inside of the post. The free extremities 10 of the catches are bent outward, and engage the base to hold the post thereon. The post is closed and rounded at the outer end 11, near to which the catches 9 are fastened, and closed also at the bottom 12 but has openings 13 adjacent the bottom through which the parts 10 of the catches may project into an endless groove 14 in the side of the socket 3. The catches are set so that the ends 10 are withdrawn and normally do not project out through the slots 13.

Within the post 4 and projecting through the closed top 11 thereof is a slidable and rotatable stem 15 having a head 16 on its inner end. This head is wedge-shaped and it tapers toward the bottom 12 of the post. When the head is actuated, it spreads the catches 9, and the extremities 10 protrude from the slots 13. The opposite extremity of the rod 15 on the outside of the post 4 carries a rounded knob 17 having a projection or lug 18 which fits into a notch or recess 19 in the end of the post 4 when the knob is rotated to move the lug 18 into alinement. The catches 9 are held in place within the post 4 by means of a block 20 in the post and the pivot pins or screws 6 engaging the block 20 so as to keep the block between the ends of the catches 9. The catches each have one end between the block and the inner surface of the post, and the screws 6 pass through openings in the arm 5 and are turned up tight in threaded bores at the sides of the block 20. Between the inner surface of the post and the catches 9 adjacent the parts 10 are compression springs 21 holding the ends 10 in retracted positions.

The head 16 has tapering wide faces 22 and tapering narrow faces 23. The head is disposed between the catches, and when the head 16 is withdrawn, with the knob 17 pulled away from the end 11 of the post 4, and the lug 18 separated from this end, the catches 9 will be in contact with the faces 23, but the breadth of the faces 22 between the points of contact will not be

enough to make the ends 10 protrude from the slots 13. When the knob 17 is pressed without turning far enough to make the lug 18 rest on the end 11 of the post beside the notch 19, the head 16 presses the catches outward and the ends 10 project from the sides of the post 4 to a slight extent. If the knob is then turned through a small arc and pressed down to force the lug 18 into the notch 19, the head 15 goes down further. The result is to cause the parts 10 to project fully through the slots 13.

The device includes a clip 24 (Figure 6) having a yoke-shaped member 25 and a straight member 26. These members are pivotally connected by lugs 27 and 28 and a pin 29. The members 25 and 26 have handle loops 30. The member 25 has a shoulder 31 between the yoke and the pin 29, and the clip carries a retaining sleeve 32 which slides on the clip, between the pin 29 and shoulder 31, and has one end large enough to receive the shoulder; and when slipped forward to engage it, lock the clip on the base and post with the members 25 and 26 held against spreading.

To employ the device, the base is laid against the head, and, with post 4 joined to the base 1. This is effected by inserting the closed bottom 12 of the post into the aperture 3, and pressing the knob 17 down till the projection 18 rests on the round outer end 11 of the post 4, beside the notch 19. The head 16 now moves downward, acting upon the catches 10 above the corner junctions of the outward bent ends 10. These ends are thus forced into the slot 14, and the base 1 and post 4 are rotatably connected, so that the post can still turn in the aperture 3. The device can thus be readily handled as a unit and put upon the patron's head at the selected point. Of course the required number of these devices will be utilized to engage the hair wherever the treatment is to be given.

The arm 5 is then lifted, and the operator lays the skein of hair 7 against the post 4 and clamps it under the arm. The post 4 is now turned to wind the hair on the post. The knob 17 is then turned and the lug 18 is pressed into the notch 19. This action moves the head 16 down further and forces the ends 10 of the catches 9 farther out into the groove 14, which has stops 33 in the bottom, like the teeth of an internal gear, and the extremities of the parts 10 are shaped to fit between the stops. (See Figure 4.) The knob and post are now locked and cannot be turned or detached. The post 4 is first given a coating of the setting solution, and the coil 8 is held till the latter assumes its permanent form.

The coil 8 when set is pressed down on the post towards the base 1 and engaged by the clip 24. The fork 25 receives the post between its arms and the member 26 is slipped into a groove 34 in the base 1. The clip is secured by pushing the retaining sleeve 32 towards the yoke 25 and post 4 over the shoulder 31 to lock the yoke 25 and member 1 in position. The post 4 can now be detached by turning the knob 17 and pulling it till the catches 9 are liberated. The treatment is finished by washing the hair and drying with only the base 1 and clip 24 in place. After drying, the base 1 and clip 24 are removed, and the hairs in the coil 8 separate and spread out, but the curves remain.

The head 16 usually lies directly across the space between the catches 9; and when the knob 17 is pulled out farther than shown in Figures

1, 2 and 5, the springs 21 push the catches 9 back and keep the ends 10 from sticking out of the slots 13, because the width of the faces 22 where the faces 23 engage the catches 9 is not enough to make the ends 10 protrude. When the knob 17 is pressed down enough to make the lug 18 rest on the end 11 of the post, the cam action of the sides 23 forces the ends 10 further out of the slots 13. On the knob 17 being turned and pressed to insert the lug 18 into the notch 19, the further downward motion of the head spreads the catches 9 still more and forces the ends 10 out so far that they enter the spaces between the stops 33. The post and base are thus tightly locked together.

The knob 17 can rotate slightly on the rod 15, but the rod 15 and head 16 do not rotate. A small resilient flexible pin 37 is secured crosswise in the outer end of the rod 15, and engages the knob 17 in a recess 38. This pin normally holds the knob 17 with the lug 18 out of line with the notch 19, but permits the knob 17 to be turned to bend the pin 37 a little without rotating the rod 15 and head 16, when the knob is pressed down to insert the lug 18 into the notch 19. The block 20, perforated for the passage of the rod 15, acts as a stop when the rod is pulled out; because the rod can move outward only till the head 16 strikes the head 20.

The nature and utility of the improvement will now be perceived and fully understood. The device is simple but strongly made and well calculated to serve its intended purpose.

The head lies snugly between the catches 9, which converge below the block 20, and make contact with the narrow faces 23 of the block. These faces converge, as above stated. Hence the cam action of the head 16 when forced down by the knob 17 and rod 15. The aperture 3 is closed at the bottom of the base as at 35 and the ends of the projections 2 on top can be tapered and rounded as indicated at 36, the under sides being perfectly flat to make full contact with the head when the hair is wrapped on the post 4. Also the outer extremities of the extremities of the parts 10 are pointed to fit into the spaces between the stops 33 as indicated in Figure 4.

While the invention is described above at length, it is not limited to the details set forth, and many changes can be made without departing from the characteristic design containing the invention.

Having described my invention, what I claim as new is:

1. A hair curler comprising a flat base, a hollow post projecting perpendicularly beyond one face of said base, a clamping arm pivotally united to said post and means carried within said post and base for securing the post rigidly to the base, or rotatably coupling said parts together, said means comprising a resilient movable catch and parts for projecting the catch from the post at its junction with said base.

2. A hair curler comprising a flat base, a hollow post projecting perpendicularly beyond one face of said base, a clamping arm pivotally united to said post, means carried within the post and the base for rotatably securing the post to the base, or locking said parts together, and a knob on the post to control said means, said means comprising a resilient movable catch and parts for projecting the catch from the post at its junction with said base.

3. A hair curler comprising a base having a

bearing socket therein, said socket having an endless groove in the side thereof, said groove having stops therein terminating short of its edges, a post inserted into the socket, catches mounted on the post, and means carried by the post for actuating the catches into the grooves short of said stops to couple the post rotatably to the base or into engagement with said stops to connect the post rigidly with said base.

4. A hair curler comprising a base having a bearing socket therein, said socket having an endless groove in the side thereof, said groove having stops therein terminating short of its edges, a post inserted into the socket, catches mounted on the post, and means carried by the post for actuating the catches into the groove short of said stops to couple the post rotatably to the base or into engagement with said stops to connect the post rigidly with said base, said post being hollow with openings at the sides in line with said groove, the catches being supported in the post and having parts to project through said openings, said means comprising a tapered head in the post between the catches, a rod bearing the head and extending to the outside of the post and a knob on the outer end of said rod.

5. A hair curler comprising a base having a bearing socket therein, said socket having an endless groove in the side thereof, said groove having stops therein terminating short of its edges, a post inserted into the socket, catches mounted on the post, and means carried by the post for actuating the catches into the groove short of said stops to couple the post rotatably

to the base or into engagement with said stops to connect the post rigidly with said base, said post being hollow with openings at the sides in line with said groove, the catches being supported in the post and having parts to project through said openings, said means comprising a tapered head in the post between the catches, a rod bearing the head and extending to the outside of the post and a knob on the outer end of said rod, said knob having a projection facing said post, and the post having a notch to receive said projection when the knob is fully depressed, said knob being yieldably secured on said rod.

ALEXIS ZACHARY.

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