

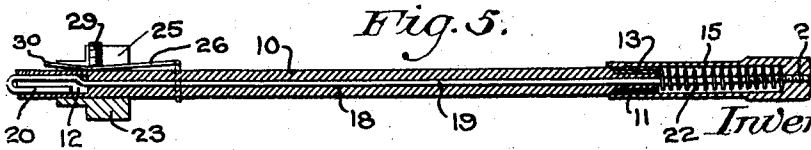
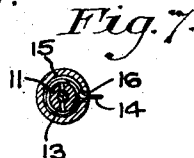
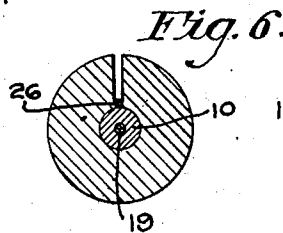
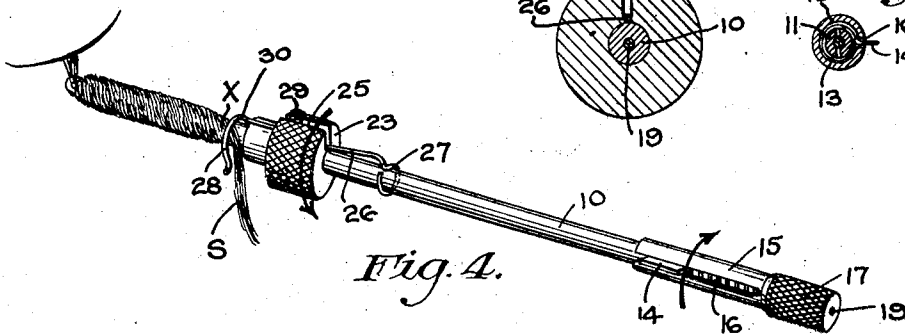
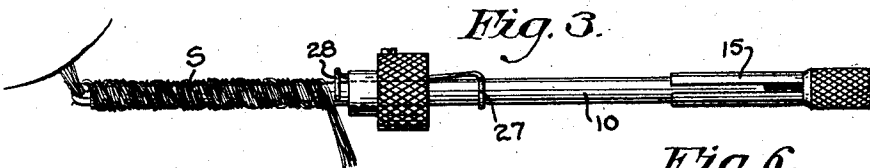
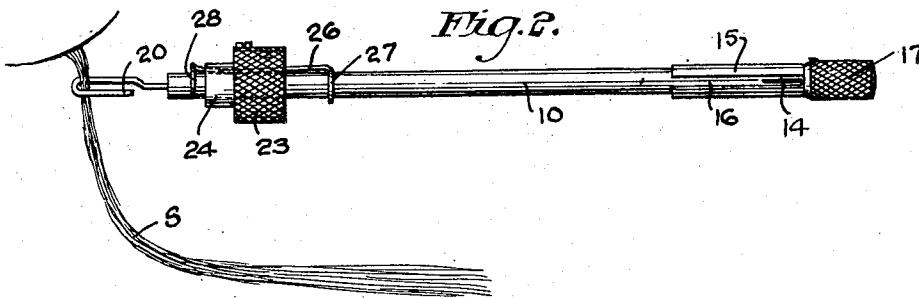
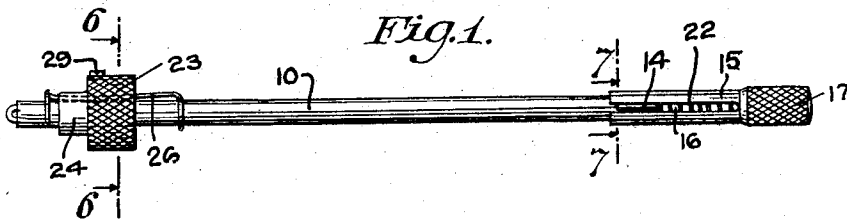
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J. D. PERCELL

1,824,497

HAIR CURLING APPLIANCE

Filed July 11, 1930



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UNITED STATES PATENT OFFICE

JOHN D. PERCELL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF SIXTY PER CENT TO GEORGE GANSER AND AUGUST ZIMMERMAN, BOTH OF PHILADELPHIA, PENNSYLVANIA, TRADING AS THE DIAMOND MACHINE COMPANY, AND FORTY PER CENT TO LENA WILLIG, OF PHILADELPHIA, PENNSYLVANIA

HAIR CURLING APPLIANCE

Application filed July 11, 1930. Serial No. 467,167.

This invention relates to hair waving appliances and more particularly to improvements in the construction of hair curling rods upon which the hair to be treated is wound.

5 Among the principal objects of this invention is the provision of a hair curling rod having means forming a part thereof for obviating the necessity of employing separate tying strings for fastening in place the opposite ends of the strand of hair undergoing treatment.

10 Another object of the invention is the provision of a curling rod or core with which is operatively associated means for effecting a much more uniform and tight winding of the hair strand than has ever been possible heretofore.

15 A still further object of the invention is the provision of a tubular hair curling rod having the aforementioned capabilities wherein the hair fastening means for that point in the strand of hair nearest the head is disposed within the bore of the rod and is in the form of a hook-shaped element which is rotatable with respect to the body of the rod only in one direction, thereby insuring proper winding of the hair upon the external surface of the rod.

20 Still another object of the invention is the combination with a hair curler rod of a collar which is rotatable with respect to and slidable longitudinally along said rod, this collar being provided with a finger so arranged that upon rotation of the collar in a given direction simultaneously as it is shifted longitudinally of the rod a strand of hair is wound uniformly and evenly in the form of a spiral upon the rod, the finger being further operative to retain the free end of the hair strand against accidental or unintentional dislodgment.

25 Other objects of the invention, such as the provision of effective means for frictionally retaining the aforementioned collar in adjusted position as well as the provision of a

simple, effective and inexpensive device for the purpose specified, will appear more fully hereinafter.

The invention consists substantially in the combination, construction, location and relative arrangement of parts, all as will be apparent more fully hereinafter, as shown in the accompanying drawings, and as finally pointed out in the appended claims. In the said accompanying drawings, wherein has been illustrated for purposes of explanation solely one form of the invention:—

Figure 1 is an elevational side view of the curler rod constructed in accordance with and embodying the features of the present invention;

Figure 2 is a similar view showing the tubular rod in retracted position to thereby expose the hair-engaging hooked end of the inner stem;

Figure 3 is a similar view showing the position of the hair-winding collar following the initial step of winding the hair upon the rod;

Figure 4 is a perspective view of the rod showing the position of the hair-winding collar following the final step of tightening the coil of hair upon the rod;

Figure 5 is a longitudinal sectional view of the hair curler as shown in Figure 1;

Figure 6 is a transverse sectional view taken on the line 6—6 of Figure 1; and

Figure 7 is a transverse sectional view taken on the line 7—7 of Figure 1.

Referring now more particularly to the drawings, it will be observed that the rod as constructed in accordance with the principles of the present invention includes a substantially elongated tubular member 10 upon the external surface of which the hair is adapted to be wound. It will be understood that in winding the hair to be heat-treated upon this rod the hair is first divided into a plurality of strands each of which strands is subsequently wound in the form of a spiral upon a rod 10 in the manner to

be hereinafter described. It will further be understood that the strand of hair so wound upon each rod 10 is ordinarily enveloped within a suitably moistened wrapping (not shown), the hair so wound upon the rod and wrapped being inserted within a heat applying device, such as the electric heating device disclosed in my pending application, Serial No. 446,450, filed April 23, 1930.

As most clearly appears in Figure 5 the rear end of the tubular rod 10 is reduced, as at 11, while the forward end thereof is provided with an enlarged bore 12. Slipped over the reduced portion 11 of the rod 10 is a coil spring 13 the inner extremity of which bears against the rod portion 11 and the outer extremity of which is turned to provide a radially extending lip 14. This spring 13 is so designed that when pressure is applied to the lip 14 in a direction such that the spring is contracted a binding action is had upon the rod in consequence of which rotation of the spring in that direction is prevented. On the other hand, upon applying a reverse pressure to the lip 14 the convolutions of the spring are expanded thereby permitting free rotation of the latter relatively to the rod 10. The purpose of this feature will be more fully explained hereinafter.

Operatively associated with the tubular rod 10 is a cap member 15 of substantially cylindrical form, the wall of which is provided with a longitudinally extending slot 16. The outer closed end of this cap member is knurled, as at 17, while the inner open end thereof is adapted to embrace the coil spring 13 and the adjoining rear end of the rod 10. The rod 10 and member 15 are assembled with the lip 14 of the coil spring projecting through the elongated slot 16. It will thus be apparent that the rod 10 is axially movable with respect to the member 15, the extent of this movement in one direction being determined by the length of the slot 16.

Projected through the axial bore 18 of the rod 10 is a stem or plunger 19 the forward end of which is reversely bent, as at 20, to provide a hooked end. The rear end of this stem or plunger 19 is threaded for threaded engagement, as at 21, with the cap member 15. Embracing the rear portion of the stem 19 and interposed between the closed end of the cap member 15 and the rear end of the rod 10 is a spiral spring 22 which is operative to maintain the rod in outwardly pressed relation with respect to the cap member 15. This outward movement of the rod 10 relative to the member 15 is limited by virtue of the engagement effected between the hooked end of the stem 19 and the forward end of the bore 18. It will be observed that the major portion of the hook 19 is nor-

mally positioned within the enlarged bore 12 of the rod 10.

Slidably received upon the rod 10 is a knurled collar 23 having a reduced axial extension 24. Formed in this collar 23 is a radially extending slot 25 which extends through the axial extension 24. Seated within this slot 25 is a spring wire 26. This wire 26 extends longitudinally of the rod 10 with the opposite ends thereof projecting beyond the corresponding ends of the collar 23—24. The rear end of the wire 26 is bent and looped, as at 27, to snugly embrace the rod 10. The forward end of the wire is laterally bent, as at 28, to provide an arcuately shaped finger for engaging a strand of hair to be wound upon the rod. The intermediate portion of the wire 26 which is received within the slot 25 normally tends to flex outwardly and away from the rod 10. A set screw 29 radially threaded into the slotted portion of the collar 23 bears against the intermediate portion of the wire and forces the same radially toward the rod 10. It will be obvious that by varying the setting of the screw 29 the plane of the looped end 27 of the wire will be inclined more or less with respect to the axis of the rod 10 and so effect a varying degree of frictional engagement therewith. With a proper adjustment of the set screw 29 the looped end of the wire thus serves as an effective means for maintaining the collar in any desired position without, however, interfering with its free slidable movement along the rod 10.

The manner of operating and employing the curling rod will now be described. The initial step, as previously explained, is to divide the hair to be treated into a number of separate strands each of which is to be separately heat treated and waved. One of these strands of hair, as indicated by the letter S, is inserted within the hooked end 20 of the stem 19, this operation being facilitated by shifting the cap member 15 axially of the rod 10 and against the pressure of the spiral spring 22 to thereby expose the hair engaging hook. The members 10 and 15 are then permitted to reassume the relative positions shown in Figures 1 and 3 wherein it will be observed that the strand S is caught between the bight end of the hook and the forward end of the rod 10.

The collar member 23 is then moved forwardly along the rod 10 until the finger 28 lies substantially in the plane of the forward end of the rod. The collar 23 and its associated finger 28 are then rotated in the direction indicated in Figure 4 such that said finger engages the strand S at a point immediately adjacent its point of securement to the unit. The rotation of the collar 23 relatively to the rod 10 is then continued simultaneously as the collar is moved rearwardly along the rod 10. In consequence of this

operation the strand S will be wound upon the rod 10 in the form of a spiral as clearly appears in Figure 3.

Upon grasping the strand at the point X (see Figure 4) and at the same time rotating the cap member 15 in the direction indicated it will be apparent that a tightening action is produced whereby the strand is tightly wrapped about the rod. The hair so wound upon the rod is then ready to be enveloped within the usual moistened wrapper. It will be observed that the finger 28 is operative as an effective means for maintaining the free end of the hair against unwrapping, thereby obviating the necessity of a tying string or other such separate device at the point X. Similarly, the necessity for a separate tying cord at the point where the hair first engages the curling rod is obviated due to the spring-pressed hook arrangement.

It will be understood, of course, that the tightening action hereinbefore referred to is caused by the relative rotation of the stem 19 and the rod 20, this being effected by firmly holding the rod 20 and rotating the member 15 in the direction indicated in Figure 4. It will be remembered that due to the action of the coil spring 13 the member 15 may be rotated only in the indicated direction, thereby insuring against unintentional or accidental loosening of the more or less tightly coiled strand of hair.

It will be further understood that the finger 28 is so shaped and proportioned that the point 30 thereof lies quite close to if not in contacting engagement with the external surface of the rod 10. The arcuated portion of the finger, 28, however, is spaced from said rod surface to an extent sufficient to permit the free introduction of the hair strand S therebetween. By means of the set screw 29 it will be apparent that the pressure exerted by the finger 28 against the strand of hair may be adjusted as desired to thereby compensate for variations in the thickness of the strand to be treated.

In employing the curling rod it is not always necessary to use the collar 23 and its associated finger 28 to effect the winding operation of the hair upon the rod. The strand S may be wound upon the rod by hand, if desired, whereupon the collar 23 may be shifted into position such that its finger 28 engages the free end of the strand to hold it in place. The finger 28 in such instance operates solely as a securing element for the free end of the strand of hair.

It will be understood that the invention has been illustrated in its preferred form and that various changes and modifications thereof may be made from time to time without departing from the real spirit or general principles of the invention as hereinbefore set forth. It is intended therefore to claim the

invention broadly, as well as specifically, as indicated in the appended claims.

What is claimed as new and useful is:—

1. In a hair curling appliance, a rod upon which a strand of hair is adapted to be spirally wound, a collar rotatably and longitudinally movable with respect to the rod, said collar having an axially extending slot therein, and a member received within said slot and extending longitudinally of said rod, one end of said member being provided with a laterally extending finger for engaging the hair strand and the opposite end thereof being fashioned for frictional engagement with the rod.

2. In a hair curling appliance, a rod upon which a strand of hair is adapted to be wound, a collar rotatably and longitudinally movable with respect to the rod, a spring pressed member carried by the collar and extending longitudinally of the rod, the fore end of said member being provided with a laterally extending arcuated finger for engaging the hair strand and the rear end thereof being provided with means for frictionally engaging the rod, and means for varying the degree of said frictional engagement.

3. In a hair curling appliance, a rod upon which a strand of hair is adapted to be spirally wound, a collar arranged for rotative and longitudinal movement on the rod, a hair winding member extending longitudinally of the rod and carried by the collar, one end of said member being provided with an arcuately shaped laterally extending finger for engaging the hair strand, and means for varying the pressure which said finger exerts against said hair strand.

4. A hair curling appliance as defined in claim 3 wherein the hair wrapping member is provided with an extension projecting rearwardly of the collar for frictionally engaging the rod to retain the collar in adjusted position.

5. In a hair curling appliance, a tubular rod upon which a strand of hair is adapted to be spirally wound, a stem projecting axially through the bore of the rod, said stem having means at the fore thereof for clamping the hair strand against the corresponding end of the rod, the opposite end of the stem extending freely beyond the rear end of the rod, a cap member embracing the freely extending portion of the stem and arranged for telescopic engagement with said rod, the rear end of said stem being secured to the corresponding end of the cap member, and a compression spring disposed within said cap member with the opposite ends thereof respectively abutting the rear ends of the cap member and tubular rod.

6. In a hair curling appliance, a tubular rod upon which a strand of hair is adapted to be spirally wound, a cap member coaxially arranged with respect to and adapted to tele-

scopically receive the rear end of said rod, a
stem projecting axially through the coaxial
bores of said rod and cap member, spring
means for normally maintaining said rod and
5 cap member in axially extended relation, and
means disposed within the cap member and
embracing the rear portion of the rod for per-
mitting free relative rotation between said
cap member and said rod in one direction
10 only.

In testimony whereof, I have hereunto af-
fixed my signature.

JOHN D. PERCELL.

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