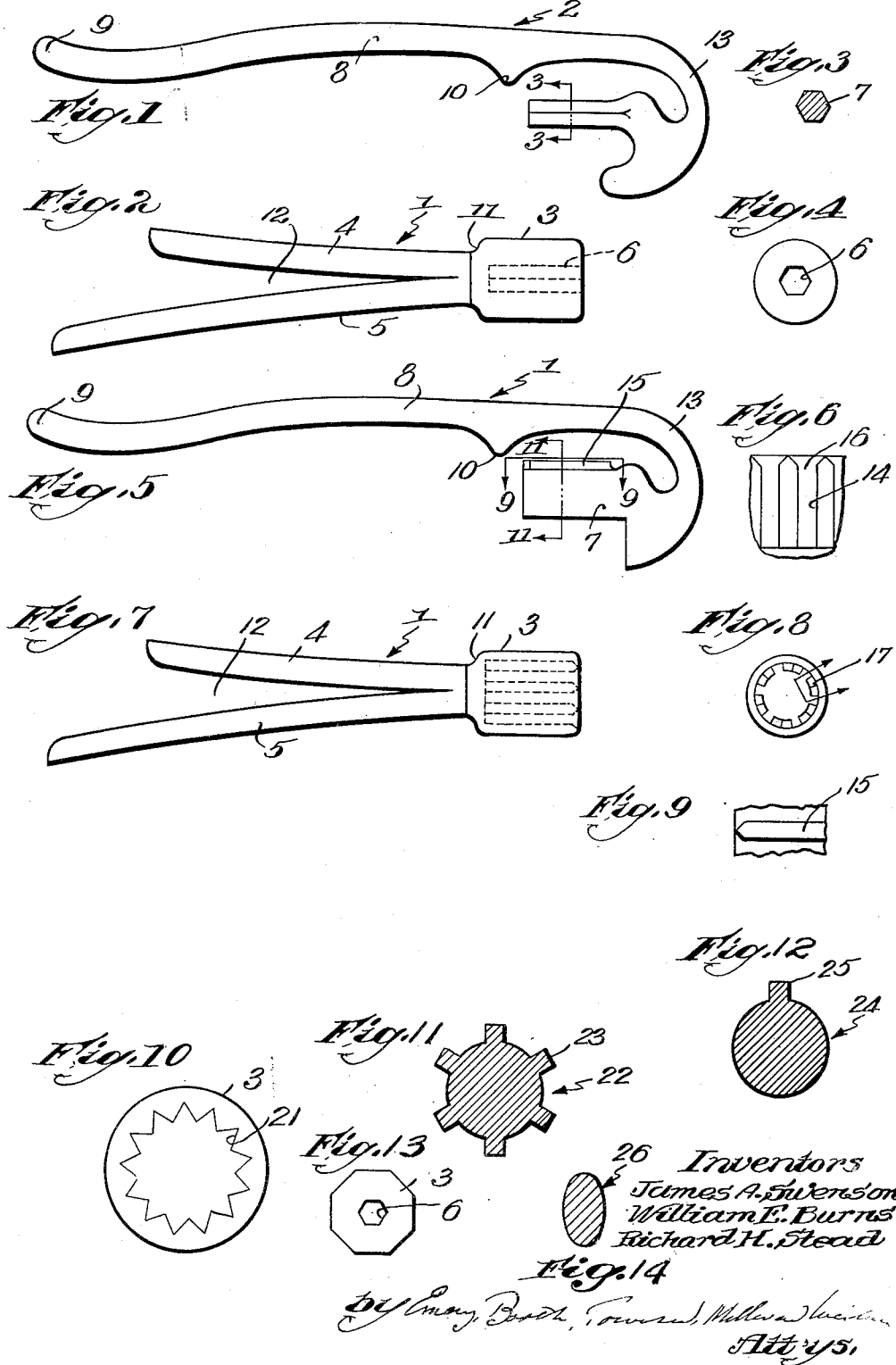


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APPARATUS FOR WAVING HAIR

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APPARATUS FOR WAVING HAIR

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This invention relates to improved apparatus for the waving of human hair and more particularly to apparatus which is intended to impart what is known as a permanent wave to the hair, and presents certain novel features over and distinguishing it from what is disclosed in an earlier co-pending application, Ser. 117,597, filed by us September 24, 1949, now Patent 2,584,760, dated February 5, 1952.

In order that the principle of the invention may be readily understood, we have disclosed several embodiments thereof in the accompanying drawing wherein—

Fig. 1 is a side elevation of the so-called retaining member of the apparatus;

Fig. 2 is a side elevation of one form of the main or body member, it being therein shown as bifurcated throughout the greater portion of its length to provide a so-called clothespin construction;

Fig. 3 is a vertical section on the line 3-3 of Fig. 1;

Fig. 4 is an end elevation of the construction shown in Fig. 2;

Fig. 5 is a view in side elevation similar to Fig. 1, showing a variation in the shape of the shorter arm of the said retaining member;

Fig. 6 is a detail constituting an internal view of the axial opening in the head end of the main or body member used with the retaining member shown in Fig. 5;

Fig. 7 is a side elevation similar to Fig. 2 but disclosing still another form or shape of the wall of the axial opening in the head portion of the main or body member;

Fig. 8 is an end view of the construction shown in Fig. 7;

Fig. 9 is a detail showing that the ridge formed upon the short arm of the retaining member used with the main or body member of Fig. 7 has a pointed entering end;

Fig. 10 represents in end elevation a saw-toothed construction of the inner wall of the axial opening formed in the head of the main or body member;

Figs. 11 and 12 are cross sections showing still other forms or shapes of the short arm of the retaining member;

Fig. 13 is an end elevation similar to Fig. 4 but representing the outer wall of the head of the main or body member as hexagonal; and

Fig. 14 is a cross section showing that the short arm of the retaining member may be of elliptical shape to fit a correspondingly shaped axial opening in the main or body member.

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All of the improvements of the invention herein disclosed have a number of advantages over the conventional type of hair curler. In the invention herein disclosed as represented in all the figures excepting Fig. 10, no paper is needed for holding the ends of the hair in position when winding begins. Also, the curler can be withdrawn from the hair without unfurling the curl thereof in all forms excepting that shown in Fig. 10. Moreover, the parts of the curler of our invention are in their functioning position held firmly locked together, thus allowing the curler to be positioned tight to the head or scalp without any slack occurring.

Referring first to the construction shown in Figs. 1 to 4, there is provided a main or body member 1 and a removable retaining member 2, the said main or body member 1 having at one end thereof a head portion 3 that may be smooth upon its outer surface in contradistinction to the construction shown in our said co-pending application above referred to now Patent 2,584,760, and thus avoiding any discomfort to the scalp. The main or body member 1, as shown in Fig. 2 has a longitudinal section to provide two parts or tines 4, 5, that extend parallel and closely adjacent to each other from the head portion 3 in the general form of a clothespin. The longer tine 5 is preferably slightly narrower than the tine 4.

The function of the retaining member 2 is not to pinch or clamp the hair to the body member 1, but to stand in the way of the hair as a stop in a direction to prevent its unwinding or unfurling from the body member 1. Actual clamping of the hair is accomplished by the two tines or parts 4, 5, of the main or body member 1.

Whereas in our said co-pending application now Patent 2,584,760 we disclosed the head of the main or body member 1 as provided upon its outer surface with a circumferential series of longitudinal channels, in our present construction we provide in the head 3 of the main or body member 1 an axial recess 6 (Figs. 2 and 4) which is of non-circular shape in cross section, it being symmetrical about one or several axes, the number of such axes determining (but not necessarily being equal to) the number of locking angular positions attainable by the retaining member 2 with respect to the main or body member 1.

Such non-circular shape in cross section of the axial opening may be greatly varied. In Figs. 2 and 4, it is represented as of hexagonal cross section and the shorter arm 7 of the retaining

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member 2 is of corresponding shape as is most clearly evident from Fig. 3. Desirably the longer arm 8 of said retaining member 2 and which at its corresponding end may curve outwardly as indicated at 9, is provided with an inwardly extending formation 10 which when the two members of the curler are brought together in functioning or mated position, engages an angular ridge 11 at the inner end of the head 3 in the main or body member 1, accomplishing a spring locking effect. The outward curve 9 is provided so that in mating the two members 1 and 2 the arm 8 will ride upon the hair and the outwardly curved end 9 serves to minimize any tendency of the arm 8 to pierce the furled hair.

It is evident that in Figs. 2, 3 and 4 the axial recess 6 is symmetrical about three axes, giving six angular locking positions. Referring to Fig. 2, the spread 12 between the two tines 4, 5, tapers with decreasing width toward the head end 3, so that when hair is introduced between the tines 4 and 5 of the said main or body member 1 and the said tines are pinched together at their free ends, the pinching or clamping effect will extend or be effective well back toward the head end 3. In normal use the hair is first introduced between the tines 4, 5, which are then pinched together by the operator's fingers, then the hair is wound around the main or body member 1 by turning it. Once the hair is wound around the main or body member 1, the hair itself then completes the clamp and it is no longer necessary to pinch with one's fingers. The retaining member 2 has the part from which the long arm 8 and the short arm 7 extend, formed as a thin portion 13 to be clamped or grasped by a thumb and finger. In normal use, a lock of hair is introduced between the tines 4 and 5 near the scalp. Then the operator pinches the tines slightly together so as to pinch slightly the hair. The curler is then drawn down the hair close to its inner ends. The operator then pinches the tines more firmly and commences to wind the hair about the body of the curler, by turning the curler.

The construction shown in Figs. 5 and 6, wherein the same numerals are employed for corresponding parts, differs from that shown in Figs. 1 to 4 in that the axial opening within the head 3 instead of being hexagonal is provided with a series of longitudinally extending narrow radially extending enlargements or channels 14-14, which are slightly spaced apart and into any one of which may be positioned a longitudinal extending ridge 15 (Fig. 9), formed upon the short arm 7 of the retaining member 2 and as shown in Figs. 7 and 8, the entrance ends of the channels are flaring as indicated at 16, thus facilitating the ready entrance of the ridge 15 of the retaining member 2. In effect the channels 14 provide between them ridges 17 which are themselves each tapered at the outer end as best shown in Figs. 6 and 8 and also in Fig. 9, which is intended to represent the single ridge 15 formed upon the shorter arm 7, of the retaining member 2. Such flaring of the entrance end is also desirably employed in Figs. 1 and 2.

Fig. 10 shows in end elevation the head 3 of the main or body member 1 as having therein an axial recess having a saw-toothed formation 21. In this case the ridge upon the short arm 7 of the retaining member is also of the same saw-toothed form in cross section, to engage in any one of the saw-toothed formations in the wall of the recess, or a series of ridges, each of a saw-toothed shape in cross section may be provided.

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In Fig. 11 is shown in cross section the retaining member 22, it being shown as having six radially extending longitudinal ridges 23 which are intended to be received in a corresponding number of radial channels formed in the wall of the axial recess, which in this case may be circular in cross section excepting for the longitudinally extending channels radiating from such longitudinal recess.

Fig. 12 shows the short arm of the retaining member, represented at 24, as being circular in cross section and having a single radially extending ridge 25 to enter any one of a series of longitudinally extending radial channels that themselves extend outward from the main or axial recess, and the cross sectional shape of such ridge 25 will correspond to that of such radial channels.

In Fig. 13 is shown in end elevation the head 3 of the main or body member 1. It is there represented as having a hexagonal axial recess 6 such as indicated in Fig. 4, and the head 3 is itself represented as hexagonal in shape.

In Fig. 14 is shown in cross section the short arm 26 of the retaining member 2, it being shown as of truly elliptical form to enter a similarly shaped elliptical axial recess in the main or body member 1. This would permit of only two positions of the retaining member 2 in the axial recess of similar shape in the main or body member.

The outer surface of the head end of the main or body member in all the constructions, may be roughened or knurled or provided with longitudinally extending, circumferentially spaced narrow channels substantially as disclosed in our said co-pending application.

Having thus described several embodiments of the invention, it is to be understood that although specific terms are employed, they are used in a generic and descriptive sense and not for purposes of limitation, the scope of the invention being set forth in the following claims.

We claim:

1. A hair-waving curler consisting of a main or body member and a readily removable retaining member, said main or body member having, at one end only, a head, said main or body member having longitudinally extending from said head two thin, solid, readily flexible tines, said tines constituting the remainder of the said main or body member and normally outwardly flaring from each other and being both of substantially the same diameter and shape, the said head having an axial, inwardly extending recess which is of non-circular form in cross section, the said retaining member being one rigid piece and being wholly and readily separable from the said main or body member and having at one end a thin portion rigid therewith and in the plane of the rest of said retaining member, said thin portion being adapted to be grasped between the thumb and finger of the user, said retaining member having extending from said thin portion two longitudinally extending formations generally parallel with each other, the said retaining member, when the parts are assembled, extending in a direction generally parallel with said tines but not contacting therewith when the said two members are assembled, and thus providing a wholly free termination at its end opposite said thin portion that is to be grasped between a thumb and finger of the user, the shorter of the said two formations of said retaining member being

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of a length and diameter adapting it to be inserted in the said recess in said head and to fit therein and fill the same, the said shorter formation having a shape and size in cross section which is the same as the cross sectional form of said recess, the outer surface of said head and of said tines being smooth and devoid of ridges and openings.

2. A hair-waving curler consisting of a main or body member and a readily removable retaining member, said main or body member having, at one end only, a head which is of larger diameter than the entire portion projecting therefrom, thereby providing an annular ridge, said main or body member having longitudinally extending from said head, at said ridge, two thin, solid, readily flexible tines of unequal length and said tines constituting the remainder of the said main or body member and normally outwardly flaring from each other and being both of substantially the same diameter and shape, the said head having an axial, inwardly extending recess which is of non-circular form in cross section, the said retaining member being one rigid piece and being wholly and readily separable from the said main or body member and having at one end a thin portion rigid therewith and in the plane of the rest of said retaining member, said thin portion being adapted to be grasped between the thumb and finger of the user, said retaining member having extending from said thin portion two longitudinally extending formations generally parallel with each other, the longer of said formations having upon its inner edge a small, inwardly extending projection to engage said annular ridge at the inner end of said head of the main or body member when the parts are assembled, the said retaining member, when the parts are assembled, extending in a direction generally parallel with said tines but not contacting therewith when the said two members are assembled, and thus providing a wholly free termination at its end opposite said thin portion that is to be grasped between a thumb and finger of the user, the shorter of the said two formations of said retaining member being of a length and diameter adapting it to be inserted in the said recess in said head and to fit therein and fill the same, the said shorter formation having a shape and size in cross section which is the same as the cross sectional form of said recess, the outer surface of said head and of said tines being smooth and devoid of ridges and openings.

3. A hair-waving curler in accordance with claim 1, wherein the wall of said axial recess has at least one longitudinally extending narrow channel and wherein the short arm of the re-

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taining member is of corresponding shape and size in cross section and therefore has at least one longitudinally extending ridge positionable in said channel.

4. A hair-waving curler in accordance with claim 1, wherein the wall of said axial recess is provided with a series of longitudinally extending parallel channels and wherein the short arm of the retaining member is provided with a plurality of longitudinally extending ridges so spaced from each other and of such size as to be fitted into a plurality of said channels.

5. A hair-waving curler in accordance with claim 1, wherein the said axial recess is of substantially saw-toothed form in cross section and wherein the short arm of the retaining member is of complementary form in cross section.

6. A hair-waving curler in accordance with claim 1, wherein the said axial recess and the said short arm are both of elliptical form in cross section and are of substantially the same dimension in cross section.

7. A hair-waving curler in accordance with claim 1, wherein the wall of said axial recess is provided with a series of longitudinally extending parallel channels and wherein the short arm of the retaining member is provided with an equal number of longitudinally extending ridges having the same spacing and substantially the same dimensions as said series of channels and wherein each of said longitudinally extending parallel channels has a flaring entrance end.

8. A hair-waving curler in accordance with claim 1, wherein the wall of said axial recess is provided with a series of longitudinally extending parallel channels and wherein the short arm of the retaining member is provided with a number of longitudinally extending ridges, each of a cross dimension and length to be received in any one of such channels the number of said ridges not exceeding the number of said channels.

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