To all whom it may concern:

Be it known that I, ALFRED VAN GALE, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Hair Wavers and Curlers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to characters of reference marked thereon, which form a part of this specification.

This invention relates, generally, to improvements in devices for waving and curling human hair; and the invention has reference, more particularly, to a novel hair waver or curler for women's use.

The invention has for its principal object to provide a novel construction of hair waver and curler upon which the hair may be wound; the device having means for locking or fastening the same against accidental separation from operative relation to the hair; and the body of the device being of a polygonal shape in cross-section, so as to provide angular portions around which the hair may be bent, whereby a well-defined wave is imparted to the tress of hair wrapped around the body of the device.

Other objects of this invention are to provide a novel construction of hair waver and curler, the body of which is adapted to cooperatively receive a novel heating element designed for use therewith; and, furthermore, to provide a novel means for supplying sufficient moisture to the hair waver and curler device, that in treating the hair an initial combination of heat and moisture may be provided to first soften the hair and render the same more readily conformable to the shaping action of the waver or curler body.

Other objects of this invention, not at this time more particularly enumerated, will be clearly understood from the following detailed description of the same.

The invention is clearly illustrated in the accompanying drawings, in which:

Figure 1 is a perspective view of the novel hair waver and curler device applied to the head of the user; said view also showing the operative application of the detachable heating element to the device; Figure 2 is a longitudinal vertical section through the body of the device, the heating element being shown in part elevation and in part section. Figure 3 is a side elevation or face view of the device and the heating element therefor; Figure 4 is another side elevation of the device, with the heating element withdrawn therefrom, said heating element being partly broken away; Figure 5 is a cross section of the device taken on line 5-5 in Figure 2, said view being drawn on a slightly enlarged scale, and showing a tress of hair operatively wound thereon; Figure 6 is another cross section, taken on line 6-6 in Figure 2, also drawn on an enlarged scale; Figure 7 is another cross section, taken on line 7-7 in Figure 2, also drawn on an enlarged scale; Figure 8 is a fragmentary perspective of a portion of the body of the device, showing one side wall partly broken away to disclose the moisture retaining element and the heating element disposed within the interior of the device; Figure 9 is a perspective view of the moisture retaining element per se; and Figure 10 is a fragmentary view showing the method of dipping the device in water prior to use in order to saturate the moisture retaining element thereof.

Similar characters of reference are employed in all of the hereinabove described views, to indicate corresponding parts.

Referring now to said drawings, the reference character 11 indicates the hollow or tubular body of the novel hair waver and curler device. This main body is made of an angular shape in cross-section, preferably of triangular form, so as to provide a plurality of faces, the junctures of adjoining faces providing angular portions or longitudinal ribs 12 around which the tress of hair to be treated may be bent, when wrapping said tress of hair around the body of the device.

Said main body 11 is provided at the end of one of its faces with a perforate ear or bearing member 13, in which is journaled the transverse hinge or pintle portion 14 of a longitudinal clamp-bar 15. Said clamp-bar 15 is thus hingedly secured to one end of the body 11 so as to extend longitudinally over one face of the latter. Said clamp-bar is preferably shaped to provide a series of undulations 16' throughout the greater portion of its length, but the same terminates at its free end portion in a straight extension provided on its outer surface with
a plurality of catch teeth or serrations. 16. Pivotally connected by its journal portions 17 to the walls of said main body 11, and so as to extend transversely over the outer end of the face of the latter over which said clamp-bar 15 extends, is a retainer or keeper loop 17, adapted to cooperate with the serrated end of said clamp-bar.

Suitably secured by one end in connection with another face of said main body 11, so as to extend longitudinally over said face, is a spring clip element 18, the tension of which tends to move the same toward the face of the main body to which it is attached.

The above description specifies the main or essential features of the novel hair waver or curler device. In applying the same to the hair, the following methods may be pursued:

The clamp-bar 15 is released and turned upwardly and back away from the main body 11. The user then takes the tress of hair to be treated, and winds the same about the main body 11, until the latter is brought close to the head, whereupon the clamp-bar 15 is turned over and downwardly across the hair thus wound on the main body, and the keeper-loop 17 is turned upwardly over the serrated end of the clamp-bar 15 to engage in one of the notches intermediate adjoining serrations or teeth 16. If the user’s hair is abundant or thick, the keeper-loop 17 will be engaged with a serration or tooth 16 toward the extremity of the clamp-bar, the keeper-loop 17 then standing substantially at right angles to the face of the main body, thus providing the maximum space between the main body 11 and the clamp-bar 15. If, however, the hair is thin or so short as not to bulk so largely on the body 11 when wound thereon, the keeper-loop 17 will be swung inward to engage with one of the inner teeth or serrations 16, in which position said keeper-loop will incline toward the face of the main body, thus pressing the clamp-bar more closely toward the face of the latter, and accordingly reducing the space between the clamp-bar and main body.

From this description it will be understood, that the position of the clamp-bar, when operatively locked over the hair wound on said main body, may be varied to conform to the bulk or amount of hair thus engaged with said main body, so that under all circumstances the device will be securely retained in operative relation to the hair.

It will be understood, that in winding the hair over the main body, the tress thereof is caused to be bent rather sharply over the angular portions or ribs 12 at the junctures of adjoining faces of the main body 11, so it follows that a decided or pronounced wave or curl to the hair, as the case may be, will be more readily produced.

If the user possesses bobbed hair, it is found to be more difficult to apply the device by winding the hair thereon because of the comparatively short length of the tresses, it being rather difficult to hold the ends of the tresses against slipping until the winding of the hair on the main body is fairly started. These difficulties are overcome in the present invention by the provision of the spring clip element 18. In the case of bobbed hair, the ends of the tress thereof, to be wound upon the main body 11, are first caught under the spring clip element 18, and are clamped thereby to one face of the body 11, being thus held against slipping while winding the hair upon said body 11. After the tress is wound upon said body 11, the clamp-bar 15 is closed and locked over the same in the manner already above described.

In some instances it may be desirable, as for example in producing ringlets or curls instead of waves, to wind the tress of hair upon the clamp-bar 15, and then lock down the latter against the main body 11 to hold the device in operative relation to the hair.

The above-described essential features of the hair waver and curler device may be satisfactorily used, as above described without heat or moisture, if so desired, the device in such case requiring to be left in the hair for a comparatively long period of time. When, however, quick results are desired, it is advisable to apply heat, either alone or in combination with initial moisture, whereby the time required for the operation of either waving or curling may be greatly shortened.

In order to provide a convenient means for applying heat, I have devised for combination with the above-described waver and curler device a novel construction of heating element. This heating element comprises an iron 19 in the form of a rod, having a suitable handle member 20 attached to one end thereof, said handle member being preferably made of a material which is a poor conductor of heat so that the user may conveniently manipulate the iron when the latter is heated. Slidably mounted on said iron 19 is a heat retaining sleeve 21, which is of a diameter larger than the diameter of the iron 19, and which possesses at its respective ends inwardly projecting angular flanges 22 which bear and slide on the iron, thus leaving a heat retaining chamber 23 intermediate the surface of the iron and the cylindrical walls of said sleeve 21. In order to retain said sleeve 21 cooperatively connected with the iron 19, the latter is pinched or flattened at one point to provide stops 24, which by engagement with the flanges 22 of the sleeve 21, limits the sliding movement of the latter on the iron. The diameter of the iron 19 is of such size
that it may be easily inserted into the interior of the hollow main body 11 of the curler device through an open end of the latter. The iron 19 is heated to the desired degree, and then its free end is inserted into the body 11. The movement of the iron into the body 11, engages and stops the sleeve 21 against the end of the body, causing said sleeve 21 to slide back on the iron as the latter penetrates the body 11. When thus entered in the body 11, the heat from the iron radiates to and heats the walls of the body 11, and thus subjects the hair wound on the latter to the effect of heat. The sleeve 21 encloses much of that portion of the iron 19 which does not enter the body 11, and aids in retaining the heat of the iron against a too quick loss by radiation to the atmosphere.

The main body 11 is also provided with means for retaining a certain amount of moisture, should it be desired to utilize the effect of moisture with heat from the iron 19 in the treatment of the hair. This moisture retaining means comprises a clip or frame 25 preferably made of metal to form a pair of spaced arms 26, between which is secured, by the embrace of the same, a pad element 27 made of felt or other material adapted to absorb moisture. The clip or frame 25 with its arms 26 is of such shape that it may be inserted within the outer end of the tubular main body 11, so as to be frictionally retained within the same, preferably with its arms 26 disposed transversely of the interior of said main body 11. The walls of said main body 11 are provided with longitudinal rows of perforations or openings 28, which communicate with the interior of said main body 11. Before wrapping or winding the hair to be treated about the main body 11, the same is dipped or submerged in water, in the manner indicated in Figure 10 of the drawings, whereupon water will be absorbed by the pad element 27. The user thereupon wraps or winds the hair upon the main body 11, and then locks down the clamp-bar 15 over the same, as already described. The iron 19, having been heated, is thereupon thrust into the interior of the main body 11 until its free end is stopped against the inner arm 26 of the clip 25, to which the heat of the iron is transmitted, and which in turn transmits heat to the moisture saturated pad element 27. The heat thus vaporizes the moisture, which vapor or steam finds its way out of the interior of the main body 11 through the perforations or openings 28 in the wall thereof, so as to be dispersed through the hair wrapped around the body 11. The moisture, at first dampens the hair thus softening the same so that it conforms itself to the cross-sectional contour of the body 11. The continued heat, however, soon dries out the moisture, so that the hair will stiffen again and the more readily hold the shape imparted thereto by the body 11.

From the above description it will be clear that this invention provides a very effective hair waving or curling device of novel construction. I am aware that some changes may be made in the various arrangements and combinations of the several devices and parts, as well as in the details of the construction of the same, without departing from the scope of this invention as set forth in the foregoing specification, and as defined in the appended claims. Hence, I do not limit my invention to the exact arrangements and combinations of the several devices and parts as described in said specification, nor do I confine myself to the exact details of the construction of said parts as illustrated in the accompanying drawings.

I claim:

1. A device of the kind described, comprising a body of angular cross sectional shape, a clamp-bar pivotally connected with one end of said body to extend longitudinally over one face of the latter, a keeper loop pivoted to the opposite end of said body, and the free end of said clamp-bar having a plurality of catch means selectively engageable by said keeper loop.

2. A device of the kind described, comprising a body of angular cross sectional shape, a clamp-bar pivotally connected with one end of said body to extend longitudinally over one face of the latter, the greater portion of said clamp-bar having formed therein a series of undulations, a transverse keeper loop pivoted to the opposite end of said body, and the free end portion of said clamp-bar having a plurality of catch teeth selectively engageable by said keeper loop.

3. A device of the kind described, comprising a body of angular cross sectional shape, a clamp-bar pivotally connected with one end of said body to extend longitudinally over one face of the latter, the greater portion of said clamp-bar having formed therein a series of undulations, a transverse keeper loop pivoted to the opposite end of said body, the free end portion of said clamp-bar having a plurality of catch teeth selectively engageable by said keeper loop, a longitudinal spring clip element associated with another face of said body, and means for securing an end of said clip element to said body adjacent to one end of the latter.

4. A device of the kind described, comprising a body of angular cross sectional shape, a clamp-bar pivotally connected with one end of said body to extend longitudinally over one face of the latter, a keeper loop.
pivoted to the opposite end of said body, and the free end of said clamp-bar having a plurality of catch means selectively engageable by said keeper-loop, a longitudinal spring clip element associated with another face of said body, and means for securing an end of said clip element to said body adjacent to one end of the latter.

5. A device of the kind described, comprising a tubular body of angular cross sectional shape, a clamp-bar pivotally connected with one end of said body to extend longitudinally over one face of the latter, a keeper-loop pivoted to the opposite end of said body, the free end of said clamp-bar having a plurality of catch devices selectively engageable by said keeper-loop, and a detachable heating iron for insertion into the interior of said body.

6. A device of the kind described, comprising a tubular body of angular cross sectional shape, a clamp-bar pivotally connected with one end of said body to extend longitudinally over one face of the latter, a keeper-loop pivoted to the opposite end of said body, the free end of said clamp-bar having a plurality of catch devices selectively engageable by said keeper-loop, a detachable heating iron for insertion into the interior of said body, a longitudinal spring clip element associated with another face of said body, and means for securing an end of said clip element to said body adjacent to one end of the latter.

7. A device of the kind described, comprising a tubular body of angular cross sectional shape, the walls of said body having longitudinally disposed rows of perforations communicating with the interior of said body, a clamp-bar pivotally connected with one end of said body to extend longitudinally over one face of the latter, a keeper-loop pivoted to the opposite end of said body, the free end of said clamp-bar having a plurality of catch devices selectively engageable by said keeper-loop, a moisture absorbent pad positioned within said tubular body adjacent to the outer end of the latter, and a detachable heating iron for insertion into the interior of said body.

8. A device of the kind described, comprising a tubular body of angular cross sectional shape, the walls of said body having longitudinally disposed rows of perforations communicating with the interior of said body, a clamp-bar pivotally connected with one end of said body to extend longitudinally over one face of the latter, a keeper-loop pivoted to the opposite end of said body, the free end of said clamp-bar having a plurality of catch devices selectively engageable by said tubular body adjacent to the outer end of the latter, a detachable heating iron for insertion into the interior of said body, a longitudinal spring clip element associated with another face of said body, and means for securing an end of said clip element to said body adjacent to one end of the latter.

9. A device of the kind described, comprising a tubular body of triangular shape in cross-section, a clamp-bar pivotally connected with one end of said body to extend longitudinally over one face of the latter, the greater portion of said clamp-bar having formed therein a series of undulations, a transverse keeper-loop pivoted to the opposite end of said body, and the free end portion of said clamp-bar having a plurality of catch teeth selectively engageable by said keeper-loop.

10. A device of the kind described, comprising a tubular body of triangular shape in cross-section, a clamp-bar pivotally connected with one end of said body to extend longitudinally over one face of the latter, the greater portion of said clamp-bar having formed therein a series of undulations, a transverse keeper-loop pivoted to the opposite end of said body, the free end portion of said clamp-bar having a plurality of catch teeth selectively engageable by said keeper-loop, a longitudinal spring clip element associated with another face of said body, and means for securing an end of said clip element to said body adjacent to one end of the latter.

11. A device of the kind described, comprising a tubular body of triangular shape in cross-section, a clamp-bar pivotally connected with one end of said body to extend longitudinally over the face of the latter, the greater portion of said clamp-bar having formed therein a series of undulations, a transverse keeper-loop pivoted to the opposite end of said body, the free end portion of said clamp-bar having a plurality of catch teeth selectively engageable by said keeper-loop, the walls of said body having longitudinal rows of perforations communicating with the interior of said body, a moisture absorbent pad, a metallic clip-frame for embracing and holding said pad, said pad and its frame being secured within the outer end of said body, and a detachable heating iron for insertion into the interior of said body.
longitudinal rows of perforations communicating with the interior of said body, a moisture absorbent pad, a metallic clip-frame for embracing and holding said pad, said pad and its frame being secured within the outer end of said body, a detachable heating iron for insertion into the interior of said body, said heating iron having a hollow heat retaining sleeve slidably disposed thereon, a longitudinal spring clip element associated with another face of said body, and means for securing an end of said clip element to said body adjacent to one end of the latter.

In testimony, that I claim the invention set forth above I have hereunto set my hand this 24th day of November, 1923.

ALFRED VAN GALE.

Witnesses:

GEORGE D. RICHARDS,

FLORA MILLER.