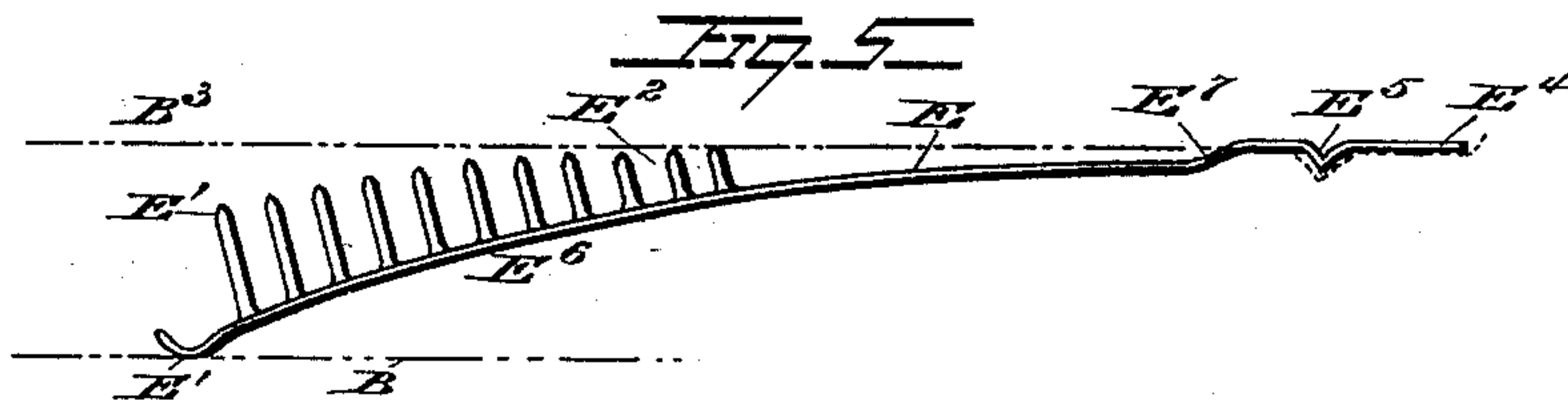
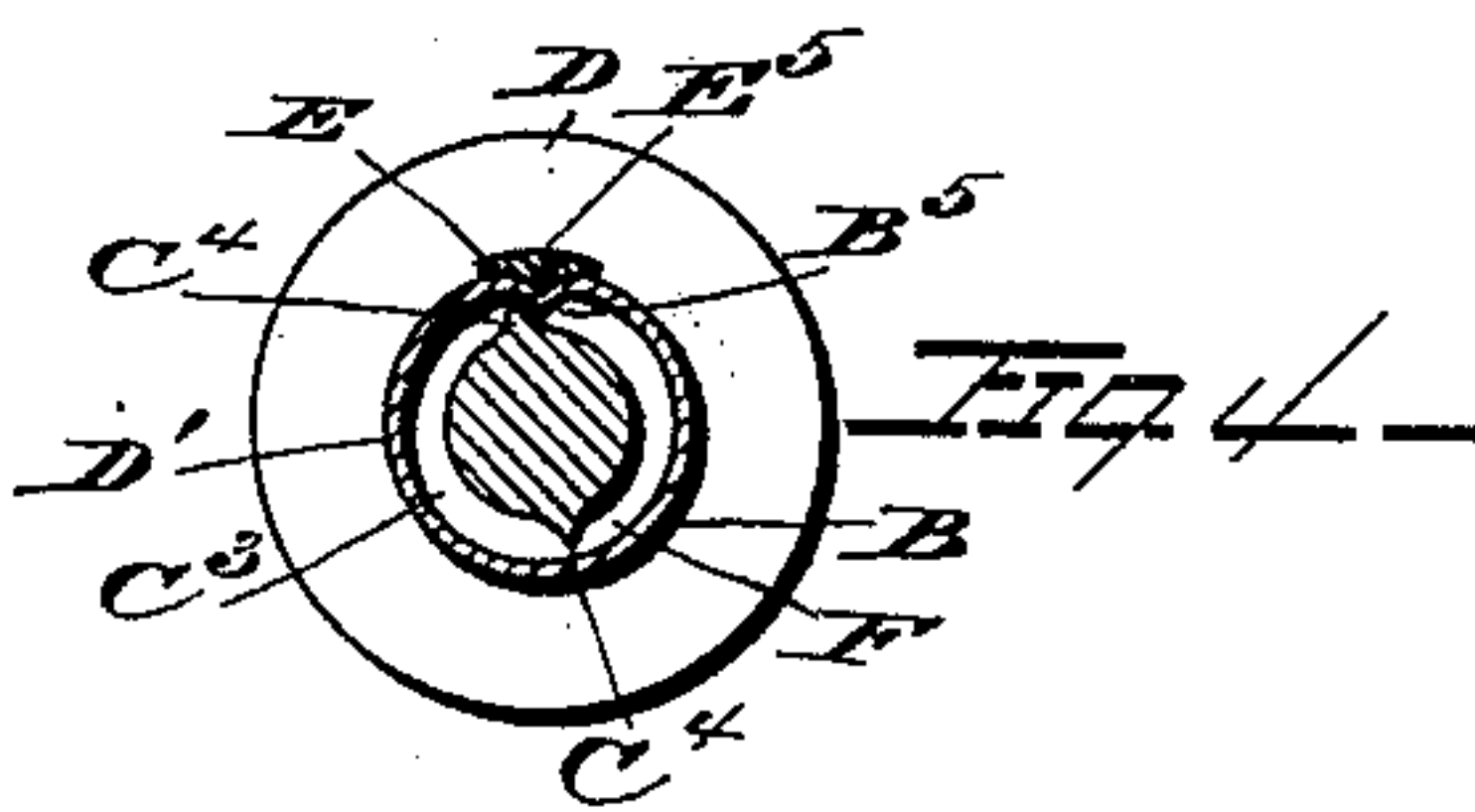
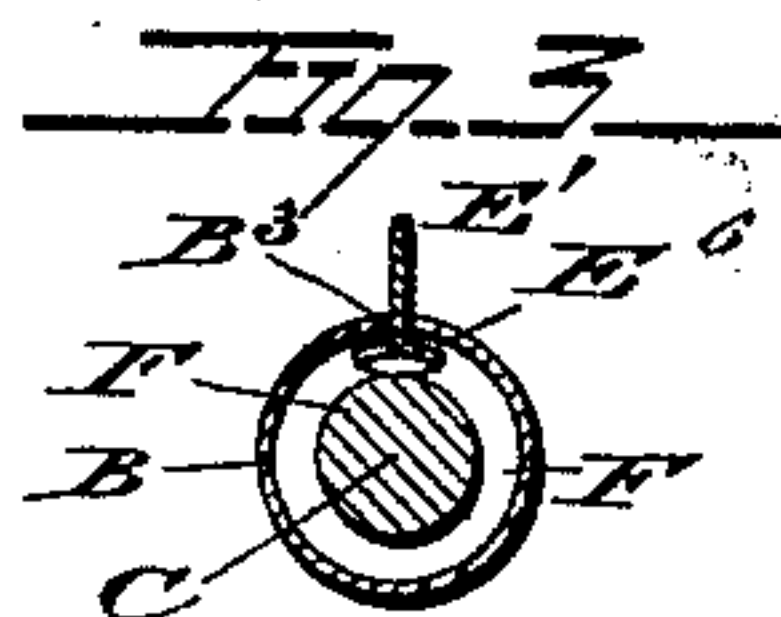
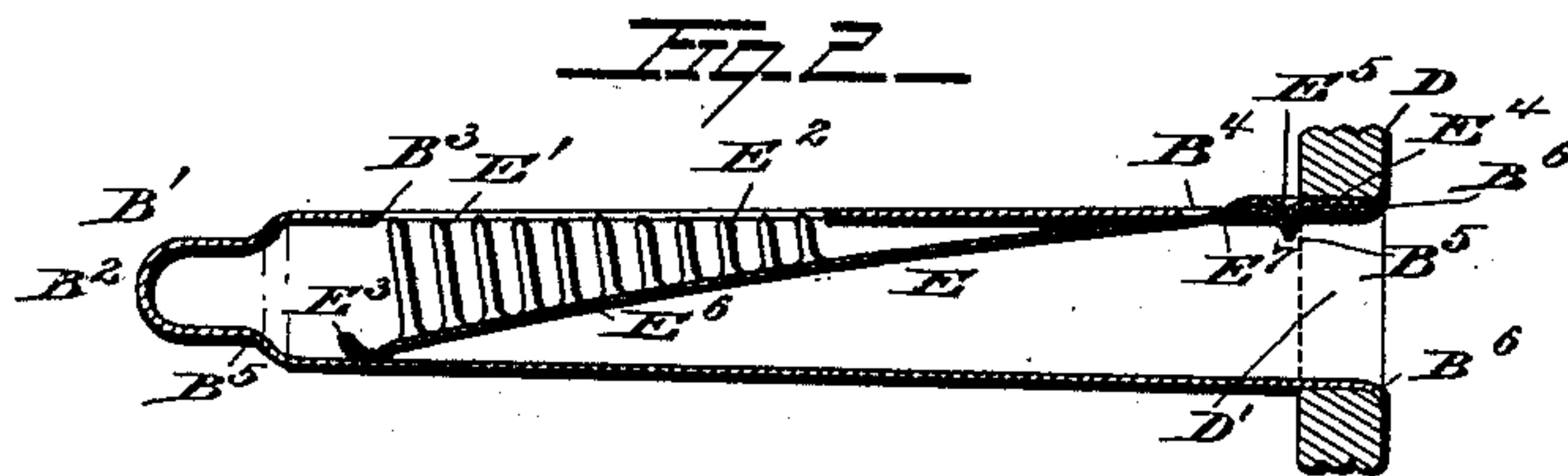
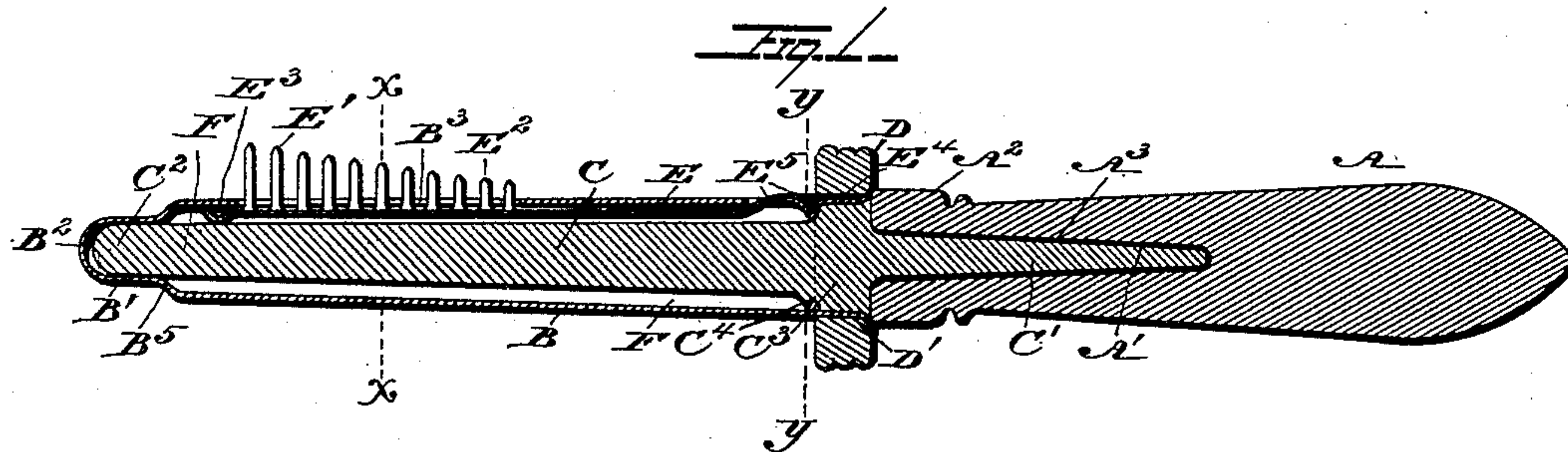


(No Model.)

I. W. HEYSINGER.  
HAIR CURLING AND CRIMPING DEVICE.

No. 411,028.

Patented Sept. 17, 1889.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## HAIR CURLING AND CRIMPING DEVICE.

SPECIFICATION forming part of Letters Patent No. 411,028, dated September 17, 1889.

Application filed February 7, 1889. Serial No. 298,970. (No model.)

*To all whom it may concern:*

Be it known that I, ISAAC W. HEYSINGER, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in Hair Curling and Crimping Devices, of which the following is a full, clear, and exact description, reference being had to the drawings which accompany and form a part of this specification, in which—

Figure 1 is a longitudinal section through the middle of the hair curler or crimper embodying my invention. Fig. 2 is a similar view in which the heating-rod and attached handle have been removed and in which the spring-actuated comb or hair-grasping part has been retracted within the hollow case. Fig. 3 is a view of the rod and case in cross-section. Fig. 4 is a cross-section along the dotted line *y y* of Fig. 1; and Fig. 5 shows the spring-comb detached, the relations to the case being shown in dotted outline.

The lettering in all the figures is uniform.

My invention relates to the construction of an implement for curling or crimping ladies' hair, &c., in which a heating-rod is inserted in a hollow casing, the heat of the central rod heating the sides of the casing adjacent thereto, in which the heating-rod and the hollow tube or casing are so constructed and adapted to each other that the heating-rod extends along within the said tube or casing, occupying the middle thereof, and having a continuous air-space between the outsides of said rod and the inner sides of said casing, so that there is no actual contact between the said rod and the said casing along the parts upon which the hair is to be applied; but the heat of said rod is communicated to said casing by radiation through the atmosphere of the interposed space. By this means the heat of the said rod is so gradually communicated to the casing that the liability of burning the hair from having one part of the rod too highly heated is avoided, and all parts of the casing are more evenly heated thereby.

My invention also relates to the construction of a hair curling or crimping device in which a longitudinal casing and a contained heating-rod are used, having a hair-grasping

device similar to the teeth of a comb adapted to be thrust out through a slot in the side of said casing by the insertion and advance of the heating-rod therein, the said comb retracted within the said tube or casing when the said heating-rod is withdrawn. I prefer to use a comb mounted upon a longitudinal spring within said casing, said spring having a normal tension inward, so that the insertion of the said heating-rod will force the comb outward through the lateral slot provided therefor against the tension of the spring, said tension serving not only to withdraw the comb when the rod is removed, but also by its impingement against the side of the rod when in place hold the same securely in the said tube or casing. I also provide means to prevent rotation of said rod in said tube or casing when the handle thereof is turned.

My invention also relates to the special construction and adaptation of the different parts thereof, as will be hereinafter set forth.

Referring to the drawings, A is a handle, preferably of wood, having a ferrule part A<sup>2</sup>, and centrally bored at one end A' to receive the tang C' of the rod C. I prefer to bore the hole A' larger than the tang C', and to fill the interposed space with a plaster-of-paris composition or other non-conductor of heat.

The rod C is firmly secured in the handle A by means of the tang C', and is of metal, preferably iron, brass, or copper. It is of a sufficient length to provide space for curls such as are required to be formed over it, and is tapered slightly from the handle to the point, which is rounded, as shown in Fig. 1. Where it joins the handle A it is enlarged, forming a cylinder C<sup>3</sup>, Fig. 1. This rod may be nickel-plated or left plain. Its purpose is by being heated over a fire, in a gas-jet, by dipping in boiling water, or otherwise to communicate heat to the hollow casing or tube B, which surrounds it when in use. This tube or casing I prefer to make of what is called "drawn tubing" of brass or other metal. It is of the same length substantially as the rod C, and is tapered from the handle end at A to the point. At its end it is contracted in diameter, as shown at B', Figs. 1 and 2, so as to form a closely-fitting support for the free end



of the rod C centered therein, the contraction having a gradual approach thereto, (see B<sup>5</sup>, Figs. 1 and 2,) to enable the tapered rounded end C<sup>2</sup> of C to ride easily into its seat. It is closed by a rounded end B<sup>2</sup>; but may be left open, if desired. At the handle end the hollow casing B is slightly expanded, B<sup>6</sup>, Fig. 2, to more readily admit the end of the rod C. When this rod C is pushed into place, its point will be centered in the contracted part B', and the enlargement C<sup>3</sup> at the handle end of the rod C will fit into the open end of the tube B, so that the said rod will be supported at the ends only, and the length of the said rod will be out of contact with the inside of the casing B, an open space F, Figs. 1, 2<sup>a</sup>, 3, 4, and 4<sup>a</sup>, being left along the same and extending continuously around the said rod C. The heat of the rod is thus communicated to the casing, not by direct contact and conduction, but by radiation through the space F, making what I call an "atmospheric" curler or "crimper." The points of contact of the rod C with the casing B are at the extreme ends, where the hair is not in contact therewith. Instead of enlarging the handle end of the rod C to fit the open end of the casing B, I sometimes crimp in the open end of said casing to fit the rod in its usual diameter, and I sometimes cover the free contracted end of the casing B' with a non-conducting covering of wood, composition, or the like.

The casing B, along a part of its length, I provide with a longitudinal slot B<sup>3</sup>, Figs. 1, 2, 2<sup>a</sup>, 3, 4<sup>a</sup>, and 5, through which a blade provided with a series of comb-teeth E' E<sup>2</sup>, and extended longitudinally within the said casing B, may project or be withdrawn. These comb-teeth are mounted upon the free end of a spring-arm E, which extends along within the hollow casing, attached to said casing between said comb E' and said handle end E<sup>4</sup>, Fig. 5, said spring-arm E having a downward tension, so as to carry the comb-teeth into the hollow casing when no pressure is exerted from within and leave the cylindrical surface of said casing B free and unobstructed. The attached end of this spring E may be secured to the sides of the casing by screws or rivets; but I find it cheaper to attach it in the following manner: At the open end of said casing I surround the same with an open handle piece D, of wood or the like, which is a non-conductor of heat and serves to hold and control the movements of the same when the handle A and rod C are removed. This handle D is passed over the casing from the contracted end and seats itself by the taper of said casing against the small expansion B<sup>6</sup>, Fig. 2. In front of this handle is a slot B<sup>4</sup> in the casing, and the spring E, having a bend E<sup>7</sup>, Figs. 2 and 5, near its free end E<sup>4</sup>. This free end is passed from within backward through the slot B<sup>4</sup>, so that the free end E<sup>4</sup> projects outward. The handle D, being now slipped on from the point of B, will embrace the free end E<sup>4</sup>, Fig. 2, and hold the same securely in place.

To prevent longitudinal slipping, the free end E<sup>4</sup> is provided with a dent or countersink E<sup>5</sup>. This seats itself in the corresponding dent or countersink B<sup>5</sup> of the hollow casing, Fig. 2, and the comb and spring are secured so that they can only be removed by first removing the handle D of the casing B.

The dent or countersink B<sup>5</sup>, Fig. 2, I use to prevent the complete rotation of the rod C within the casing B. For this purpose I cast or otherwise form the rod C just in front of the enlarged cylinder C<sup>3</sup> at the handle end with two or more studs C<sup>4</sup> C<sup>4</sup>, Fig. 4. The rod C being in place, these studs abut against the countersink B<sup>5</sup> as it projects inward. Instead of this means of preventing the complete rotation, I sometimes, if preferred, form the contracted end of B into a polygon, and make the free end of the rod C of a corresponding shape, or use other means, such as are well-known, for like purposes.

I prefer to form the spring E, with its comb, from a single piece of spring metal—steel or the like; but the same may be made in parts and riveted together, if so desired.

The free end of the spring E is provided with a bent point E<sup>3</sup>, bent downward toward the comb and bent upward at its extremity. This downward bend rides upon the length of the rod C and prevents contact of the comb and spring therewith, so that the spring E occupies the middle of the space F at one side thereof, and is neither in contact with the rod C along its length nor with the inner side of the casing B. The comb is thus prevented from being overheated by direct contact and burning the hair when the rod C is hotter than necessary.

While the comb E, constructed and adapted as herein described, forms a part of my present invention, I do not always use it in connection with the rod, casing, and cylindrical or other continuous space F; but, when desired, I use other means of holding the hair preparatory to winding the same upon the casing which forms the mandrel, many of which—such as springs, blades, clips, &c.—are in general use for such purposes; and I also vary the specific construction of my device in various ways without departing from the principles of my invention, as herein shown, described, and claimed.

Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In combination with the handle A and metal rod C, secured thereto, the hollow casing B, open at one end and adapted to be passed over said rod C, having slot B<sup>3</sup> in one side thereof, together with spring E, secured at one end to said casing B, extending forward within the same, having comb E' E<sup>2</sup> secured to its free extremity, said comb fitted to operate transversely in said slot B<sup>3</sup>, said comb normally retracted within said casing by the backward tension of said spring E, and adapted to be thrust outwardly through



said slot against said tension by the insertion of the said rod C into said casing B from said open end thereof, substantially as and for the purposes described.

5 2. In a hair curler or crimper, in combination with the hollow casing B, having contracted free end B', forming a bearing within, the internal detachable heating-rod C C', said rod supported in said bearing at the free end of  
10 said casing, and having its intermediate portion C extended along within said casing, separated from the inner walls thereof by the interposed air-space F, extending around said rod, the heat of said rod conveyed to said casing by radiation through said air-space F,  
15 substantially as described.

3. In a hair curler or crimper, the longitudinal casing B, open at one end, and having a concentric contraction B' at the opposite end, in combination with a central heating-rod C, having non-conducting handle A, and a concentrically enlarged part C<sup>3</sup> upon said rod near said handle, so that when said rod is inserted in said casing the free end  
20 thereof will be supported in said contraction B' and the enlarged portion thereof C<sup>3</sup> will fill the open end of said casing, together with the annular radiation-space F, formed thereby between the sides of said rod C and said casing B, substantially as described.  
30

4. In combination with the handle A and heating-rod C, secured thereto, the external casing B, provided with slot B<sup>3</sup> in one side thereof, and the comb E' E<sup>2</sup>, permanently secured within the said casing and adapted to be projected outward through said slot B<sup>3</sup> by the advance of said rod C in said casing, together with the non-conducting hand-piece D, surrounding the open end of said casing, substantially as described.  
40

5. In a hair curler or crimper, in combination with the longitudinal casing B, open at one end and provided with slot B<sup>3</sup> in one side thereof, the elongated spring E, extended forward within said casing and provided with the hair-grasping part E', adapted to be forced out through said slot B<sup>3</sup>, the rear end of said spring E extended along the outer side of said casing, and the perforated hand-piece D,  
45 fitted around the open end of said casing and adapted to clamp the free end E<sup>4</sup> of said

spring E against the outer side of said casing and hold the same in place, together with the central rod C C', adapted to be inserted into the said casing B from its open end and by its advance therein force the said part E' outward through said slot B<sup>3</sup>, the said spring E retracting the same by its backward tension when the said rod C has been withdrawn, substantially as described.  
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6. In combination with the laterally-slotted hollow casing B, open at one end, the detachable rod C, adapted to be inserted therein, and the spring-mounted comb E E<sup>6</sup> E' E<sup>2</sup>, said comb E' E<sup>2</sup> projected transversely through the slot B<sup>3</sup> by the advance of said rod C in said casing B, the downwardly-bent tip E<sup>3</sup> of said spring E E<sup>6</sup> adapted to rest upon said rod C and prevent contact of the body of said spring E E<sup>6</sup> or comb E' E<sup>2</sup> therewith, substantially  
65 70 as and for the purposes described.

7. In combination with a hollow casing, open at one end, and an internal heating-rod, of a like cross-section tapered and contracted at its free end and adapted to be inserted into and withdrawn from said casing, the comb E', contained within said casing, adapted to be thrust transversely outward or withdrawn through a slot in the side of said casing by the advance or withdrawal of said heating-rod longitudinally therein, substantially as described.  
75 80

8. As an article of manufacture, a device for curling or crimping hair, consisting of a non-conducting handle A, metallic heating-rod C, attached thereto and extended longitudinally therefrom, a hollow casing B, open at one end and slotted at B<sup>3</sup> in one side thereof, a contained spring E, secured to said casing and provided with comb E' E<sup>2</sup> at its free end, stop E<sup>5</sup> within said casing, and C<sup>4</sup> upon said rod, said stops B<sup>5</sup> and C<sup>4</sup> by engaging with each other adapted to prevent the complete rotation of said rod within said casing when the same is inserted therein and operated by said handle A, substantially as described.  
85 90 95

ISAAC W. HEYSINGER.

Witnesses:

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