

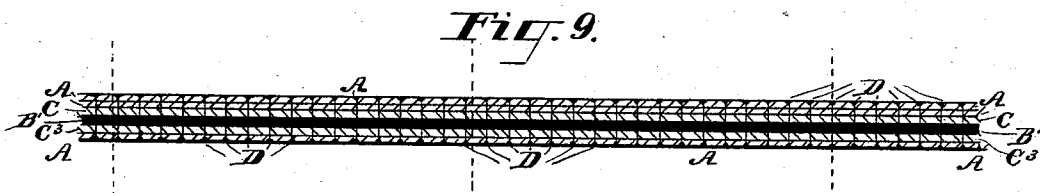
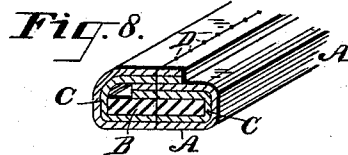
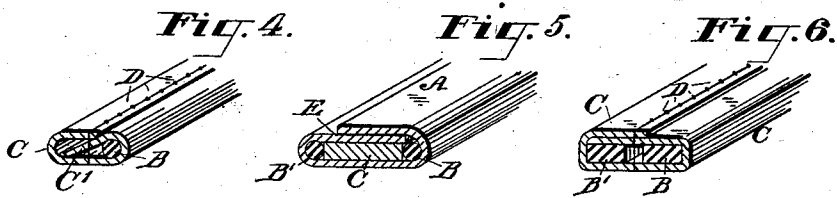
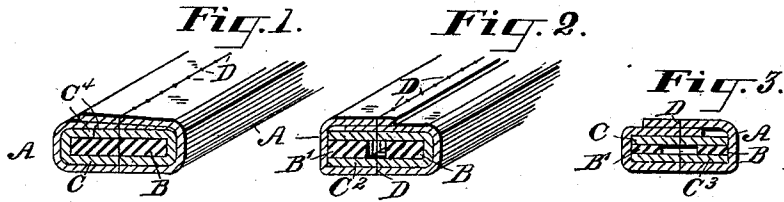
(No Model.)

I. W. HEYSINGER.

HAIR CRIMPER.

No. 347,177.

Patented Aug. 10, 1886.



WITNESSES:

Geo. Nolan
Joshua Pusey

INVENTOR

Isaac W. Heysinger

UNITED STATES PATENT OFFICE.

ISAAC W. HEYSINGER, OF PHILADELPHIA, PENNSYLVANIA.

HAIR-CRIMPER.

SPECIFICATION forming part of Letters Patent No. 347,177, dated August 10, 1886.

Application filed April 19, 1886. Serial No. 199,395. (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-Crimpers, of which the following is a full, clear, and exact description, reference being had to the drawings accompanying and forming a part of this specification, in which—

Figure 1 shows in cross-section and perspective a hair-crimper embodying my invention in one of the subordinate forms in which it is applicable. Fig. 2 is a like view of one of my crimpers, showing the parallel strips of metal or wires, between which I run a row of stitches, and having the stiffening re-enforce, as hereinafter described. Fig. 3 is a cross-section of one of my crimpers, which differs from Fig. 2 in showing a two-ply strip of re-enforce instead of one folded over. Fig. 4 shows a crimper using only a single metal strip of less width than the body of the crimper, which has a body of tough paper or fiber or like material without an outside covering, and in which the row of stitches passes alongside the metal strip and through the body aforesaid. Fig. 5 shows a similar crimper to Fig. 3, except that the re-enforce of paper or fiber lies between the two parallel wires or metal strips, and is protected by a covering of fabric, which I show cemented down at its overlap, the constituent elements of the crimper being all cemented together as made, as shown in the Letters Patent No. 218,300, dated August 5, 1879; or the cover alone may be cemented down at its fold or overlap. Fig. 6 shows a crimper similar to that shown in Fig. 4, except that two parallel wires are used and the stitching is done between, no cover of fabric being used. Fig. 7 shows a similar crimper in which the re-enforce is made by a wrapping of tow, cotton, soft paper, or fabric, the row of stitches between the wires holding the cover and all the parts in place. This form is particularly useful for large rolls or curlers. Fig. 8 shows a crimper having a single metallic strip in which the cover and re-enforce of paper are both folded around the core together and seamed down by the row of stitches; and Fig. 9 is a longitudinal section through the middle line of a length of crimper-stuff marked at various

points where it is to be cut apart to form different crimpers, and shows the row of stitches, the cover of fabric, the re-enforce of paper, felt, vulcanite, cloth, or other material, and the metallic strip.

The lettering in all the figures is uniform.

My present invention is designed to be an improvement upon that secured to me by Letters Patent No. 309,854, granted December 30, 1884, the advantages of my present invention being greater cheapness, ease of stitching, and capacity for greater bulk than in the invention covered by my former Letters Patent aforesaid.

While the different figures show a number of subordinate forms differing somewhat in detail, the essential features of my invention, in whole or part, will be found to be common to all. My invention relates to the construction of a hair-crimper intended to hold strands of hair, when twisted around the same, from unrolling, by making the crimper of an elongated soft-metal non-elastic body, so that the ends thereof may be bent around the strand of hair and securely hold the same, being adapted for use repeatedly, according to the ability of the material to stand repeated flexion without breaking.

In my Letters Patent aforesaid I constructed my crimper by folding around a soft-metal core-strip a cover of fabric which was secured to the said core-strip by a seam running along the said crimper, and uniting the said cover of fabric to the said core of metal. I usually formed my seam by a row of stitches which passed through the cover of fabric, and also through the metal core-strip, thus sewing both together from end to end. The crimper therein shown and described is an excellent one, and when made of light metal is easily sewed through, especially if the metal be lead, which is what I usually employ; but in larger sizes the weight of the lead and its cost become an objection, and the sewing or seaming is done with more difficulty. I have therefore devised the present improvement upon the said invention, which consists, essentially, in the employment of a pair of parallel wires lying, perhaps, an eighth or three-sixteenths of an inch apart, which said wires may be of soft iron, brass, or other ductile metal, and con-

necting them together with a re-enforce or support of paper, vulcanized fiber, felt, tow, cotton, soft rubber, or any like substance, so as to prevent folding inward along the seam, and insure the requisite form and resistance of the body of the crimper, and covering this compound core with a layer of fabric seamed down longitudinally along the crimper, either by a row of stitches, which is what I prefer to use, or in certain cases by a cemented edge, which said seam may run along the middle line of the crimper, or may extend in a spiral around the same, as set forth in my former Letters Patent aforesaid. When I cement my covering to the core, I make no claim to this construction, broadly, as the same is covered by the Letters Patent No. 218,300, dated August 5, 1879, but limit myself to the specific construction shown and described.

Instead of using a double wire, or two parallel wires, I sometimes use only a single wire, which I prefer to place to the right or left of the middle line, and then run my row of stitches alongside the same and through the re-enforce. I sometimes also do not use a covering of fabric, but make my re-enforce of tough board properly prepared, such as may be obtained in the market, of leatherette, kid, or other skin, or like material of various kinds, stretch my parallel wires along the strips of the same, which I fold over and secure by a line of stitches down the middle, or an equivalent seam of any other kind, though I prefer to use the sewed seam as being better, neater, more flexible, and stronger in use. The punctures of the needle and the pliability of the thread assist in making the crimper more flexible, while the wires furnish the stiffness and ductility required to hold the hair. When I make up large rolls for curlers or crimpers, I sometimes wrap them around the two parallel wires with a re-enforce of pulpy or soft material—such as tow, soft paper, &c.—and run my row of stitches between the said wires, to secure all together.

I am aware that crimpers have been made by covering a soft-metal wire or strip with hemp and applying to the same a covering of fabric. I am also aware that sheets of lead and strips of lead and paper have been used, folded together, for doing up the hair, from time immemorial, and that artificial flower-stems, bonnet and brace wire, woven-wire braids used by wig-makers, electrically-insulated wires for Ruhmkorff coils or transmission of electricity, and multitudes of other analogous constructions consisting of strips of paper or like material and an interposed wire, the whole covered by fabric, have been in use for many years. I am also aware that bonnet-wires have been wrapped with fabric in a spiral, and that in certain English patents and elsewhere electric wires have been wrapped with an insulating fabric cemented fold to fold in a spiral form; but I make no claim, broadly, to any of the above features,

but limit myself to the specific features herein shown and described.

Referring to the drawings, A is the covering of my crimper, which I prefer to make of a long strip of muslin or other fabric wide enough to inclose the crimper-body on all sides, and have an overlap or seam, through which I usually run a row of stitches on a sewing-machine, as is fully set forth in my Letters Patent of December 30, 1884, aforesaid.

The body of my crimper consists of a strip of metal soft and ductile enough to bend freely without breaking, but firm enough to hold securely when the end is folded over and pinched down upon a strand of hair. Around this metallic strip, as shown in Fig. 1, where the edges come together flush on one side, is wrapped a re-enforcing strip of paper or other material, such as has been hereinbefore mentioned in this connection. The row of stitches D will pass through the upper layer and overlap of the cover A, the re-enforce C, the metal core-strip B, and the lower layers of re-enforce and cover below, thus holding all together from end to end. It is obvious that the re-enforce C enables a much larger bodied crimper to be made than could be done by stitching through a heavy metal body, B, which would thus become, by its size, too rigid to be folded over readily, and would be heavy in use and costly to make. By varying the thickness of the re-enforce crimpers swollen in the middle may be readily produced, as I do in my Letters Patent hereinbefore mentioned, by varying the size of the lead core.

In Fig. 2 the folded re-enforce, instead of passing entirely around the core-strip, has a sectional form something like a letter U, lying sidewise, and in the bifurcation are two strips of wire, which for cheapness may be iron wire, such as bonnet-wire, either covered or plain, as the needle does not penetrate the core-strip, but passes between the two parallel wires of which it is composed, while the re-enforce C keeps the form and bulk intact. To form this crimper in a sewing-machine no detailed description will be necessary. A guide, like a hemmer, turns the outer covering, A, around the core BC. The folded re-enforce is made by feeding the paper strip into a hemmer within the one for the cover A, and the wires are guided, as in cording cloth, by a two-eyed cord-guide, so that all three elements are delivered under the needle in the form shown in Fig. 2. The feed, take up, and other adjuncts are fully described in my Letters Patent aforesaid, dated December 30, 1884, No. 309,854, and I use the same devices in this invention.

In Fig. 3 I show the same arrangement as in Fig. 2, except that the re-enforce, instead of being folded over at the edge, as at C', Fig. 2, consists of two separate strips, C C', between the outer edges of which lie the parallel wires B B', the whole inclosed by the strip of fabric A, stitched down between the

parallel wires B and B' by the stitched seam D. The fabric is fed to the machine almost precisely as in Fig. 2, except that the two-eyed corder has a slot or space above and below, so that the two strips and the two wires all go under the needle through the same guide, while the strip of fabric is turned over the outside.

In Fig. 4 I show but a single wire, B, but I do not stitch through this wire, as shown in Fig. 1. The wire B lies alongside the row of stitches, and the space on the opposite side is filled by the surplus C' of the re-enforce C, which is left wide enough to turn down and keep the crimper in form.

In Fig. 4 I do not show a covering of fabric, as the re-enforce may be made of a felted material or of tough paper, which, when surfaced or indented, may be made to look very well and render excellent service at less cost than were an outer covering of fabric added. The stitched seam D, Fig. 4, thus passes through the overlap and upper fold of C, then alongside the wire B and through the under side of C.

In Fig. 5 I show the parallel wires B B' separated by some interval, which interval I fill with a long strip of paper or other material having a thickness equal to that of the wires, so that a triple core is made consisting of two side strips of metal and a middle one of tough paper, C. Around the whole is tightly folded the covering-strip of fabric A, which is overlapped and seamed along its upper side. This seam in Fig. 5 I show as being cemented down to the upper fold of fabric, so as to make a firm and a flexible joint. The cement may be ordinary fish-glue or any other cement desired, but I prefer to use a cement which will resist the action of moisture. I therefore ordinarily employ either an elastic cement of gutta-percha made with a proper solvent or of india-rubber; or I use a cement of fish-glue and bichromate of potash applied from a dark box, which becomes insoluble when exposed to the light.

In Fig. 6 I show a stitched seam, D, a double wire, B B', and a re-enforce properly surfaced so as to show handsomely, and of properly-prepared material, but without a covering of fabric.

Fig. 7 shows the covering of fabric A and the parallel wires B B', while C^o is a layer of bulky and soft material rolled around the wires or otherwise applied so as to secure a large bulk. The row of stitches D is not made with a hard enough tension to draw the sides together. This form I use for making curlers or round and large bodied braiders for the hair.

Fig. 8 is a simple modification of Fig. 1, in

which the covering of fabric A and non-metallic re-enforce C are laid upon each other, and both wrapped around the core, which may be a single strand of wire or of two parallel wires, and then seamed down by the row of stitches D.

It will be seen that by the use of my present invention such hair-crimpers as I describe may be made at a very low cost and in great variety, and that they are well adapted to the purposes for which they are intended, and may be used for other analogous purposes for which they are suitable.

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

1. A hair-crimper consisting of the parallel soft-metal core-strips B B', the re-enforce C, to give form and body thereto, the covering-strip of fabric A, and the stitched seam D, the whole constructed substantially as and for the purposes described.

2. In a hair-crimper, the parallel wires or strips of soft metal, B B', the interposed re-enforce of non-metallic material, C, and the covering-strip of fabric, A, having overlaid seam E, cemented or stitched to secure the sides thereof together, substantially as described.

3. As an article of manufacture, a hair-crimper consisting of an elongated piece of non-elastic material having one or more parallel wires of soft metal and a covering or re-enforce of non-metallic material, said covering and said wire or wires being held together by a stitched seam, the stitches of which pass alongside the said wire or wires and through the said re-enforce, said re-enforce being sufficiently rigid to prevent the sides of the crimper from folding over when in use along the said stitched seam, substantially as described.

4. A length of crimper stuff consisting of two parallel soft-metal wires supported by a non-metallic re-enforce and covered by a strip of fabric folded over, and having an overlapping seam secured to the opposite edge of the said strip of fabric from end to end, so that the said length of crimper stuff may be cut into suitable lengths for hair-crimpers without unrolling or fraying, substantially as described.

5. In a hair-crimper, the body consisting of the wire or wires B B', or their equivalent, and the re-enforce C, in combination with the covering-strip of fabric folded over the said body, and having the edges thereof joined by a seam or cement unaffected by the moisture of wet strands of hair, substantially as described.

ISAAC W. HEYSINGER.

Witnesses:

J. LOREN HEYSINGER,

M. B. FENNINGER.