

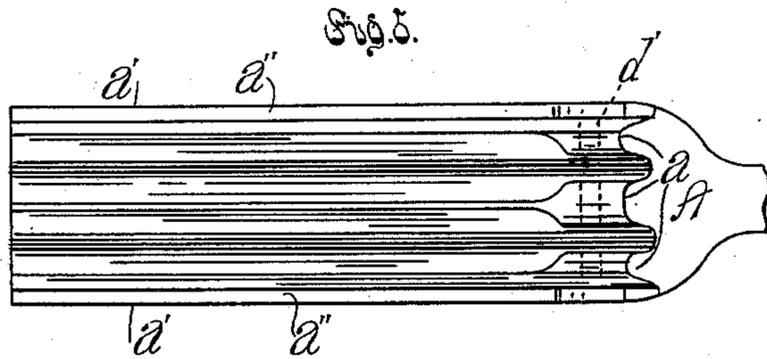
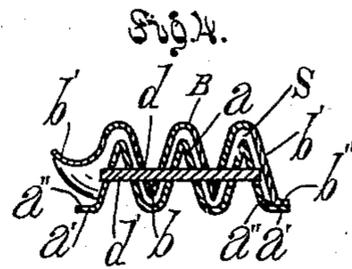
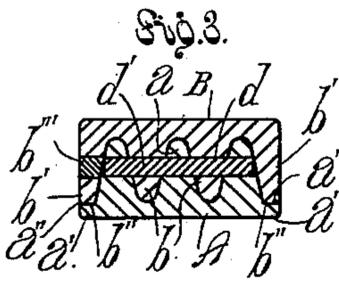
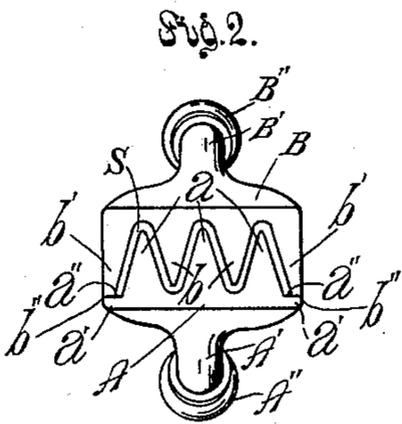
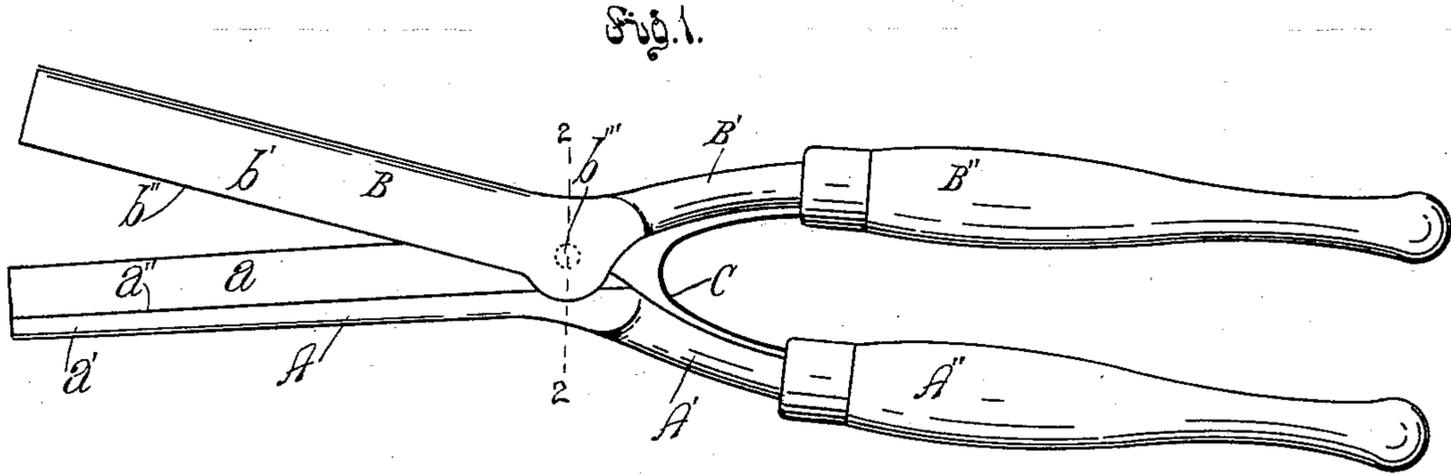
No. 628,580.

Patented July 11, 1899.

B. GRAY.
HAIR CURLING IRON.

(Application filed June 10, 1898.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

BENJAMIN GRAY, OF LOS ANGELES, CALIFORNIA.

HAIR-CURLING IRON.

SPECIFICATION forming part of Letters Patent No. 628,580, dated July 11, 1899.

Application filed June 10, 1898. Serial No. 683,108. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN GRAY, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Hair-Crimpers, of which the following is a specification.

I have found in practice that it is very difficult to produce a satisfactory device for crimping hair in that if the device is not so arranged as to leave the hair at the edges of the crimps substantially in line with the base of the crimps the result is that the crimps are not distinct, the tendency of the hair is to rise up from the head and to straighten, and the entire effect is not only unartistic, but untidy.

One object of my invention is to produce a hair-crimper with which a lady's hair may be quickly crimped and in a highly-artistic and effective manner. I have also found that in a crimping-iron in which the flutes fit closely into each other the hair is liable to be caught between the flutes before the crimper is fully closed, and further movement of the crimper in closing either shears or mashes the hair, or, if the hair is caught in two places with a flute therebetween, the hair is broken or stretched by the closing of the flutes. This is an objection which has interfered very materially with the successful use of crimping-irons.

A further object of my invention is to provide a crimping-iron in which there will be no possibility of stretching, breaking, mashing, or shearing the hair.

A further object of my invention is to simplify the construction of devices of this kind and to so arrange the various parts that when the crimper in its preferred form is assembled and ready for operation the pivot by which the parts are pivoted together will be invisible.

A further object of my invention is to provide means for pivoting the mandrel and the jaw together, so that not only will the pivot be satisfactory in use, but will be cheap in application and impossible of displacement.

The accompanying drawings illustrate my invention.

Figure 1 is a side elevation of a device embodying my invention, showing the jaws separated from each other to receive the hair to

be crimped. Fig. 2 is an end view of the same. Fig. 3 is a sectional view taken through the pivot of the device. Line 2 2, Fig. 1, indicates the line of section. Fig. 4 is a sectional view showing my invention as manufactured from sheet metal. Fig. 5 is a plan view of the mandrel, showing the flutes thickened at the rear end.

In the drawings, A represents the mandrel, which in practice I have made from aluminum, as shown in Figs. 1, 2, and 3, but may be made of any suitable metal, either cast or stamped, as shown in Fig. 4. This mandrel is provided with flutes *a*, preferably three in number, and each outer flute is provided with an outwardly-projecting lip *a'*, which has its upper face *a''* arranged substantially in line with the base of the flutes.

B is the jaw, which is provided with two inner flutes *b* and two outer flutes *b'*. These flutes fit into and are chambered between the flutes *a* of the mandrel and in turn chamber the flutes of the mandrel, and each outer flute *b'* has its lower edge or bottom *b''* arranged to fit against the upper face of the outwardly-projecting lip *a'* of the mandrel when the jaw is closed against the mandrel. The flutes are made of such a size that when the outer flutes *b'* rest upon the lips *a'* there will be a space S between the flutes in which to chamber the hair. Thus the hair will be caught only between the flutes *b'* and the lips *a'*, and the crimper must be fully closed before the hair becomes gripped, and therefore there can be no stretching or grinding of the hair, as would be the case did the flutes contact with each other. These flutes are at their rear ends beveled or rounded outwardly, as shown, and the mandrel and the jaw are each provided with an outwardly-projecting prong A' B', respectively, to which are secured handles A'' B'', which are of the ordinary construction.

In order to provide neat, cheap, and artistic means for pivoting together the fluted members shown in Figs. 1, 2, and 3, I provide a pivot-hole *d*, passing through the flutes *a* and also passing through the inner flutes *b* of the jaw and one of the outer flutes *b'* of such jaw. The pivot *d'* is inserted through the pivot-hole in the outer flute of the jaw into position in the pivot-holes in the inner flutes of both

the jaw and the mandrel, with its outer end resting against the outer flute b' , which is not provided with a pivot-hole. The pivot is of such length that when thus seated its rear end will be clear or practically clear of the outer flute having the pivot-hole, and a plug b'' , of material preferably the same as that of which the jaws are formed, is inserted into the pivot-hole in such outer flute and secured by any suitable means. After the plug is fastened in place the outer surface of the jaw will be buffed, so that there will be no appearance upon the outside of the pivot or of the plug. The pivot-holes and pivot are located between the bases and apexes of the flutes at the rear of the fluted portions, so that the implement will open sufficiently wide although the pivot is not set into an offset part. By this means the implement is adapted to be manufactured cheaply either by means of castings or stamped metal. The rear portions of the flutes, through which the pivot passes, are also made thicker than the front or crimping end of the flutes, so that they fit closely together, as shown in Fig. 3, and thereby hold the crimping portion of the flutes in proper position—that is to say, they cannot shift sidewise into engagement with each other to thereby grip the hair and grind or mash it, as they might do if the flutes did not fit tightly together at that portion forming the hinge. C is a spring for holding the jaw normally closed.

It is essential in order that the crimping of the hair be effective that the outer flutes b' seat against the lips or projections a' , and also that the flutes a and the flutes b be of such size as to leave a space between them when the flutes b' are thus seated against the lips. This leaves sufficient space between the inner flutes to chamber the hair and to yet allow the outer flutes b' to clamp the hair firmly against the lips a' and to thus produce a distinct crimp at this point. This is essential or otherwise the crimp will come out, the outer crimp being much more liable to come out than the inner crimps.

In Fig. 3 I have shown the device constructed of sheet metal stamped into form. In this construction one of the outer flutes b' will be sprung outward sufficient to permit the introduction of the pivot, after which it may be sprung back in place to retain the pivot in position.

In practical operation, the device being assembled as shown in Fig. 1, the mandrel and the jaw are heated by any suitable means. A suitable quantity of hair is placed between the mandrel and the jaw and the jaw is closed down upon the mandrel. By reason of the

inner flutes not fitting tightly together the hair will easily and freely slip over the flutes until the outer flutes b' seat firmly against the lips a' . When this occurs, the hair is held rigidly in position and is allowed to remain until the crimping is effected, when the jaws are opened and the device is used to crimp another portion of the hair.

By reason of the inner flutes being of such size as to leave a space between them, even when the outer flutes b' are seated against the lips a' , all stretching, shearing, or breaking of the hair is avoided, since sufficient space is left to allow the hair to slip freely until the outer flutes are seated fully against the lips. When this is done, there can be no further movement of the jaw and the mandrel with relation to each other, and therefore there is no possibility of stretching or breaking the hair.

Now, having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a hair-crimper, the combination set forth of a mandrel provided on its upper face with flutes, the outer flutes being each provided with an outwardly-projecting lip having its upper face substantially in line with the base of the flutes; the jaw provided on its under face with flutes fitting into and embracing between them the flutes of the mandrel, the bottoms of the outer flutes of the jaw being adapted to seat against the outwardly-projecting lips of the mandrel; a pivot arranged near one end of the flutes, passing through the flutes of the jaw and the mandrel and pivoting the jaw and the mandrel between the bases and apexes of the flutes to each other; and a spring arranged to hold the jaws normally closed.

2. In a hair-crimper, the combination set forth of a mandrel provided with a flute and with the projecting lips; a jaw pivoted to the mandrel and provided with the flutes, the outer flutes of the jaws being adapted to seat against the lips, the flutes being of such size that when the outer flutes are seated against the lips a space will be left between the inner flutes in which to chamber the hair.

3. In a crimping-iron, the combination set forth of a mandrel and a jaw each provided with flutes and pivoted together by a pivot passing through the flutes, such flutes being thicker at the point of pivoting than at the crimping portion, substantially as and for the purpose set forth.

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Witnesses:

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