

C. W. WILMOT.
CURLING IRON.

APPLICATION FILED MAY 16, 1910. RENEWED FEB. 12, 1912.

1,031,604.

Patented July 2, 1912.

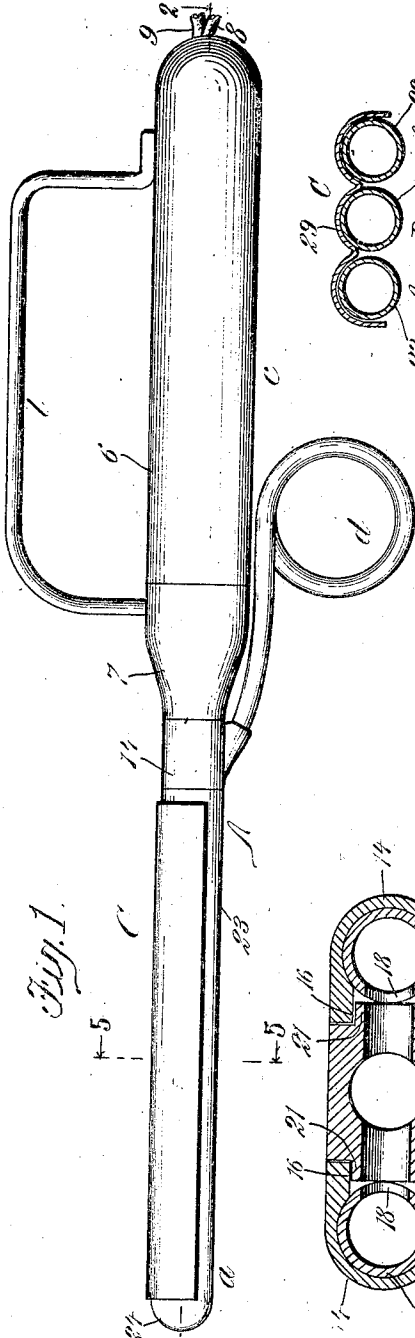


Fig. 1.

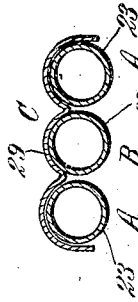


Fig. 5.

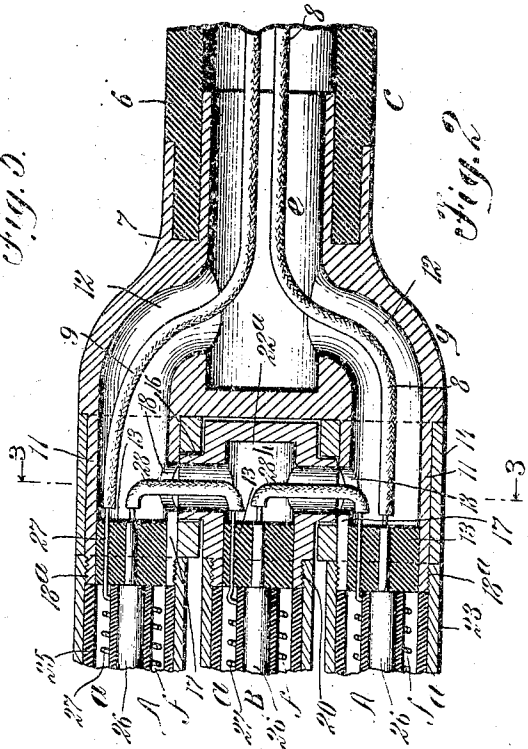


Fig. 2.

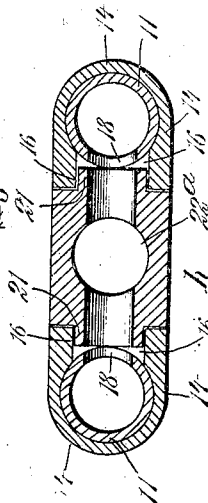


Fig. 3.

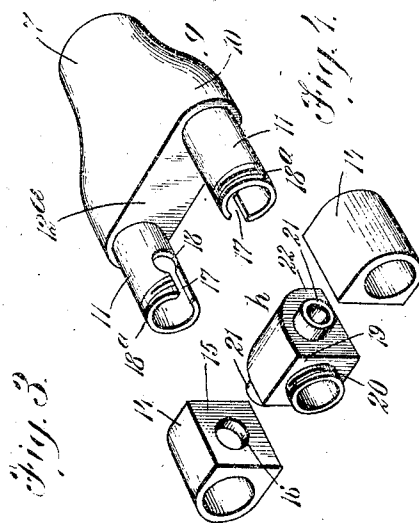


Fig. 4.

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UNITED STATES PATENT OFFICE.

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CURLING-IRON.

1,031,604.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES W. WILMOT, a citizen of the United States, residing at San Diego, in the county of San Diego and State of California, have invented new and useful Improvements in Curling-Irons, of which the following is a specification.

This invention relates to electrical or electrically heated curling irons, and it has for its object to provide an improved device, or improved apparatus, adapted for curling hair, which will be relatively simple and inexpensive in construction, positive and effective in operation, convenient in use and control, and economical with respect to heat units consumed; which may be operatively utilized for extended periods of time without material deterioration; and which will be generally superior in point of efficiency.

In certain aspects, the invention constitutes an improvement upon that described and claimed in U. S. Letters Patent No. 930,586, issued to me August 10, 1909, for electric curling irons. According to the invention constituting the subject of said Letters Patent, the heating irons or members or elements of the curling iron lie normally out of a common plane, the intermediate heating iron lying in a plane beneath or at one side of and parallel with a plane in which lie the outer heating irons. Thus, in the curling operation, the hair is finally compressed between and among the heating irons, and a shield or apron connected with the intermediate heating iron, with the three heating irons out of lateral alinement. It results, in the use of the patented form of curling iron described, that the intermediate curl or wave of the hair does not conform with the lateral curls or waves thereof; such intermediate curl or wave being of an exaggerated form and having substantially straight portions merging into the curved portion of the side waves or curls.

It is one object of the present invention to obviate the lack of uniformity of wave or curl formation above referred to, and to provide a curling iron of the type set forth, whether electrically heated or otherwise, which will produce a uniform curve or wave formation.

Further particular objects of the invention consist in the provision of means at variance with those disclosed in said Letters Patent, for mounting the heating irons in

connection with the grip or handle member, and for electrically connecting the electricity resisting means with which each of the heating irons is provided with electricity supply means or feed means within the grip or handle member.

With the above and other objects in view, the invention consists in the novel and useful provision, construction, combination, association and relative arrangements of parts, members and features, all as hereinafter described, shown in the accompanying drawing, and finally pointed out in claims.

In the drawing:—Figure 1 is a longitudinal side view of a curling iron constructed according to the invention; Fig. 2 is a partial longitudinal sectional view of the same, taken upon the line 2—2, Fig. 1, and looking in the direction of the appended arrows; Fig. 3 is a transverse sectional view, taken upon the line 3—3, Fig. 2, and looking in the direction of the appended arrows; Fig. 4 is a composite isometric view of a number of separate features entering into the invention, and operating in joint relation, the same being shown in relatively separated positions; and Fig. 5 is a detail transverse sectional view, parts being omitted for clearness of illustration, taken upon the line 5—5, Fig. 1, and looking in the direction of the appended arrows. Figs. 2, 3 and 4 are upon an enlarged scale.

Corresponding parts in all the figures are denoted by the same reference characters.

Referring with particularity to the drawing, the improved curling iron, which is illustrated as of the type employed customarily for waving human hair, comprises two relatively movable members A and B, between and among which and a shield C the hair is received and compressed in the curling operation. The heating irons *a* are preferably three in number, the member A comprising two, and the member B comprising one of the same. The members A and B are relatively movably connected, preferably pivotally, and each of the same is provided with a grip or handle member *c* and *d* respectively. The handle member *c* is provided with, and incloses, electricity supply means or feed means *e*, whereby the heating irons *a* are provided with the proper heat units through the agency of electricity resistance means *f* with which each of the heating irons is provided. Each of the

outer heating irons *a* is detachably connected with the handle member *c* through the agency of connection means *g*; and the intermediate heating iron *a* is detachably connected with the handle member *c* through the agency of the connection means *g* and connection means *h* which are operatively connected with the same. These connection means *g* and *h* permit the irons proper to be replaced when required by long service, or to be removed and repaired as necessary. The connection means *g* and *h* are so organized, in common parts, as to permit of interchange of the heating irons. The grip or handle member *c* may comprise two separable portions, 6 and 7, of which the connection means *g* serve as the portion 7, and said portions 6 and 7 may be provided with a combined grip, guard and locking member 1, detachably connecting the portions 6 and 7, being connected at either end with the portions 6 and 7 respectively, in any suitable manner.

A particular preferred form and organization and combination of parts, members and features embodying the invention, and features and elements thereof above set forth, is as follows:—Line wires 8 and 9 are received within the tubular handle member *c*, constituting the electricity supply means *e*, and said line wires extend through the connection means *g* and the connection means *h* to the resistance means *f* in each of the heating irons *a*, in the manner hereinafter set forth. The connection means *g* comprises a tubular body 7 which at one end, opposite to that which connects with the handle portion 6, is enlarged laterally, as at 10, and provided with parallel tubular sockets 11 projecting from a plane or flat end portion 12^a of the body 7, said body 7 having diverging interior passages 12 communicating with the tubular sockets 11. Through these passages the line wires 8 and 9 respectively extend, and also through the tubular sockets 11, each of which is provided at its outer end with an insulating plug 13. Mounted upon each of the sockets 11 is a sleeve 14 provided with an inwardly directed plane or flat face 15 provided with a bearing opening 16; and each of the sockets 11 is provided upon its inner side with a longitudinal slot 17 terminating at its inner end in an approximately circular opening 18 which registers with the respective bearing opening 16. The slots 17 are thus opposed each to the other. Each of the tubular sockets 11 is provided with a threaded outer end portion 18^a.

The connection means *h* comprises a socket body 19 provided at its forward end with an exteriorly threaded nipple 20 and having lateral tubular bearings 21 formed to enter and to be received by the bearing openings 16; the socket body 19 being cham-

bered longitudinally, as at 22^a, in communication with the tubular bearings 21 and the tubular nipple 20, the tubular nipple extending at right angles to the bearings 21 which have a common axis. The socket body 19 has opposite flat facial portions 22 which engage with the flat walls or facial portions 15 respectively of the sleeves 14; and the socket body 19 is free to swing upon its bearings 21 in a plane at right angles to that in which lie the sleeves 14 and the sockets 11 within the same.

Each of the heating irons *a* consists of a preferably metallic tube 23, having a closed outer end 24, the inner end portion thereof being threaded for engagement with one of the nipples 11 or the threaded nipple 20. Each of the tubes 23 is provided with an inner insulating lining 25; and disposed centrally thereof longitudinally of each of said tubes 23 is an exteriorly insulated conducting stem or rod 26 fixed to one of the insulating plugs 13, which plugs are detachable from the sockets 11 and the nipple 20 respectively. Coiled about each stem or rod 26, and connected with the outer end thereof, is a length of resistance wire 27, the inner end portion of which projects through the respective insulating plug 13. The conducting stems or rods 26, at their inner ends, and the length of resistance wire 27, are serially connected with the line wires 8 and 9, as clearly shown in Fig. 1. The line wire 8 or 9 is connected with the conducting stem or rod 26 or resistance wire 27, as the case may be, of the respective side heating iron *a*. A circuit wire 28 connects the resistance wire 27 or stem or rod 26, as the case may be, of said outer heating iron *a* with the conducting stem or rod 26 or resistance wire 27, as the case may be, of the intermediate heating iron *a*, such circuit wire 28 passing through the respective opening 18 in the respective outer socket 11, the respective bearing opening 16 in the sleeve thereof, and the respective tubular bearing 21 at the respective side of the socket body 19, and being joined with the conducting stem or rod 26, or the resistance wire 27, as the case may be, of the intermediate heating iron *a*, within the chamber 22^a in the socket body 19.

The grip or handle member *a* is connected with the socket body 19, beneath the same, so as to relatively pivotally move the members A and B, or the outer heating irons *a* and the intermediate heating iron *a*.

The shield or apron C extends longitudinally of and above the heating irons *a*, being looped over the same and centrally connected longitudinally, as at 29, with the upper portion of the intermediate heating iron *a*.

The operation, method of use and advantages of the improvements constituting the

invention will be readily understood from the foregoing description, taken in connection with the accompanying drawing and the following statement:—It will be understood that the line wires 8 and 9 project from the handle member *c*, as at one end thereof, as shown in Fig. 1, and are further extended to a suitable source of electrical supply. With the parts all assembled as shown in the drawing, a closed electrical circuit will extend through the feed wires 8 and 9, the conducting stems 26, the resistance wires 27, and the circuit wires 28, so that the resistance wires will transform the electrical energy into heat within each and all of the heating irons *a*. When the latter are suitably heated, the hair is passed about the heating irons *a*, over the outer irons, under the guard *C*, and under the intermediate iron. The members *A* and *B* are then manipulated, by means of the handle members *c* and *d*, so as to press and wave or curl the hair, in a continuous curvature or resultant formation. In the manipulation or relative movement of the members *A* and *B*, the member *B* with its heating iron swings pivotally by means of the bearings 21 upon the sleeves 14 and within the bearing openings 16 therein; the circuit wires 28 included in the electrical circuit which includes the resistance wires 27 and the conducting stems or rods 26 of the heating irons, being accommodated by and within the openings 18 in the sockets 11, the bearing openings 16 in the sleeves 14, and the tubular bearings 21 of the socket body 19, as well as by the chamber 22^a in said socket body 19. The elongated slots 17 in the sockets 11 permit of assembling and disassembling the heating irons *a* and the sockets 11 and socket body 19, the circuit wires 28 readily entering the openings 18 in the sockets 11 through said slots 17, and conversely being readily withdrawn therefrom. The socket body 19 and the sleeves 17 may be jointly passed into operative positions upon and in connection with the sockets 11, at the same time that the outer heating irons *a* are brought into positions for connection with the sockets 11; the intermediate heating iron having been first connected with the nipple 20 of the socket body 19. Reversal of these operations will permit disassembling of the heating irons *a* and the connection means *g* and *h*.

I do not desire to be understood as limiting myself to the specific provision, construction, formation, and combination of parts, members and features shown and described; but reserve the right to vary the same, in adapting the improvements to varying conditions of use, without departing from the spirit of the invention and the terms of the following claims.

claim and desire to secure by Letters Patent:—

1. Improvements of the character described, comprising a handle member provided with spaced sockets, heating irons connected respectively with said sockets, and an intermediate heating iron pivotally connected with and between said sockets.

2. Improvements of the character described, comprising a handle member provided with spaced sockets, heating irons connected respectively with said sockets, sleeves upon said sockets, and an intermediate heating iron pivotally connected with and between said sleeves.

3. Improvements of the character described, comprising a handle member provided with spaced sockets, heating irons connected respectively with said sockets, sleeves upon said sockets, and an intermediate heating iron pivotally connected with and between said sleeves; said sleeves and sockets being provided with registering openings adapted to accommodate electricity supply means.

4. Improvements of the character described, comprising a handle member provided with internal passages and with spaced tubular sockets communicating with said passages, heating irons connected with said sockets, and an intermediate heating iron pivotally connected with and between said sockets; said sockets being provided with openings communicating with said passages and adapted with said passages to accommodate electricity supply means.

5. Improvements of the character described, comprising a handle member provided with spaced tubular sockets and with passages communicating respectively therewith, heating irons connected with said sockets, sleeves upon said sockets, and an intermediate heating iron pivotally connected with and between said sleeves; said sockets and said sleeves being provided with openings communicating with said passages and adapted therewith to accommodate electricity supply means.

6. Improvements of the character described, comprising a handle member provided with spaced tubular sockets, heating irons connected with said sockets, sleeves upon said sockets, there being bearing openings in said sleeves, a socket body provided with tubular bearings entering said bearing openings, said socket body being provided with an internal chamber, and said sockets being provided with openings communicating with said tubular bearings and with passages in said handle member; and a heating iron connected with said socket body; said handle member being provided with passages communicating with said tubular sockets; whereby electricity supply means may be extended through said handle

Having thus described my invention, I

member and said tubular sockets and said tubular bearings and said socket body.

7. Improvements of the character described, comprising a handle member provided with internal passages and with tubular sockets communicating respectively with said passages, heating irons connected with said tubular sockets and provided with insulating plugs entering the same, sleeves upon said tubular sockets and provided with bearing openings, there being openings in said tubular sockets communicating with said bearing openings, and a socket body provided with tubular bearings entering said bearing openings and with an internal

chamber communicating with said tubular bearings; said socket body being provided with a tubular nipple communicating with said internal chamber; and a heating iron connected with said tubular nipple and provided with an insulating plug entering said tubular nipple. 20

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES W. WILMOT.

Witnesses:

LOUIS L. DE COSTA,
YOUNG C. BURKHART.