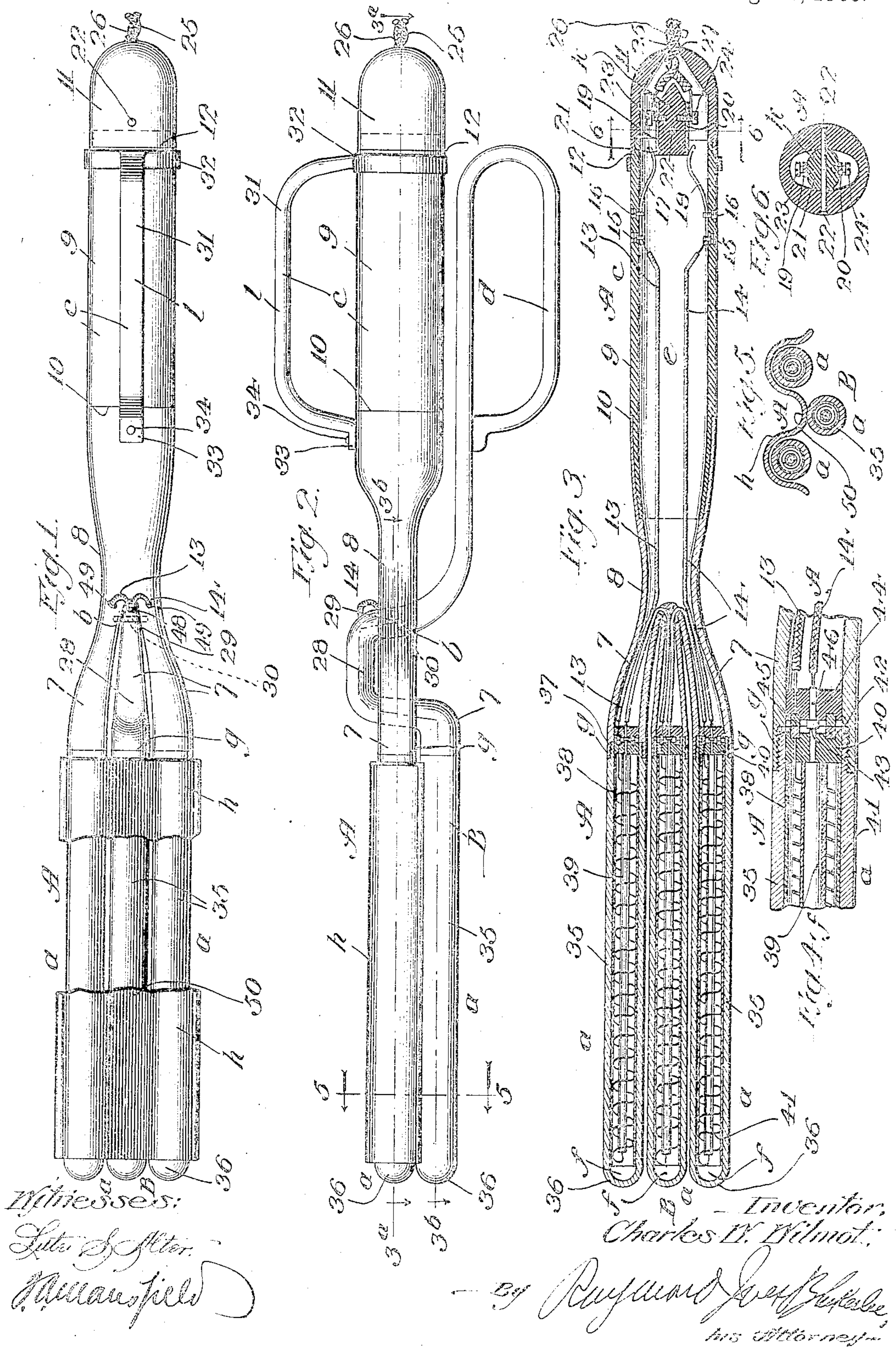


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ELECTRIC CURLING IRON.
APPLICATION FILED JUNE 17, 1908.

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Patented Aug. 10, 1909.



UNITED STATES PATENT OFFICE.

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ELECTRIC CURLING-IRON.

No. 930,586.

Specification of Letters Patent.

Patented Aug. 10, 1909.

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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 Redondo, in the county of Los Angeles and State of California, have invented new and useful Improvements in Electric 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 human hair, which will be relatively simple and inexpensive in construction, positive, speedy and effective in operation, convenient in use, economical with respect to heat units consumed, which may be subjected to continued use without material deterioration, and which will be generally superior in point of efficiency.

The invention consists in the novel and useful provision, construction, combination, association and relative arrangement of parts, members and features all as herein- after described, disclosed in the accompanying drawing, and finally pointed out in claims.

In the drawings:—Figure 1 is a top plan view of a curling iron constructed according to the invention; Fig. 2 is a longitudinal side view of the same; Fig. 3 is a composite longitudinal sectional view of the same, taken upon the lines 3^a—3^a, and 3^b—3^b, Fig. 2, the section upon the lines 3^b—3^b being shortened to conform with the remainder of the showing; this view being presented to disclose, particularly, the electrical circuit supplying energy to the heat generating means; Fig. 4 is an enlarged, detail longitudinal sectional view, corresponding to a portion of the showing in Fig. 3; Fig. 5 is a detail transverse sectional view, taken upon the line 5—5, Fig. 2, and looking in the direction of the appended arrows; and Fig. 6 is a detail transverse sectional view, taken upon the line 6—6, Fig. 3, and looking in the direction of the appended arrows.

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

Referring with particularity to the drawing, the improved electrical curling iron, which is illustrated of the type employed customarily for waving human hair, comprises two relatively movable members A and B, respectively, between which 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 one of the same. Said members A and B are relatively movably connected, preferably pivotally, as at *b*; 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 *e*, whereby the heating irons are heated through the agency of resistance means *f* with which each of the irons proper is provided. Each of the arms proper is detachably connected, as at *g*, with its respective grip or handle member *c* or *d*; whereby said arms proper, with their respective resistance means *f*, may be replaced when required by long service, or may be removed and repaired. The detachable connection at *g*, in each instance, is the same, thereby making the irons proper *a* interchangeable. Associated with the members A and B, and the heating irons *a* thereof is a shield or apron *h*, which serves to hold the hair in proper connection with the heating irons *a* during the curling or waving operation.

The particular preferred form of provision, construction, combination, association and relative arrangement of parts, members and features embodying the invention, such as in general described above, is as follows:

The member A is substantially of straight formation, two divergent socket pieces 7 springing from the outer end portion 8 of the grip or handle member *c* thereof. With each of said socket pieces 7 one of the irons *a* is detachably connected as at *g*. Inward of the socket pieces 7 the grip or handle member *c* is enlarged, as at 9 to provide a firm main grip for the hand of the user of the device; said main grip 9 being preferably detachable, as at 10, by a slip joint, from the portion provided with the socket pieces 7; and having an inner detachable end cap 11 having a slip joint connection, as at 12, with the main portion of said grip 9. Line wires, 13 and 14, respectively, extend through the grip or handle member *c*, which is of tubular or hollow formation, and through the socket pieces 7, said line wires being cut to include the resistance means *f* of each of the heating irons *a*; and said line wires 13 and 14 are connected with binding posts 15, within the grip or handle member *c*, adjacent to the inner end thereof and to the detachable end cap 11. Connected with said binding post 15, and

with other binding posts 16 arranged adjacent thereto, are what I designate as spring jacks, 17 and 18, respectively, which are curved metallic contact fingers designed and adapted to receive respectively, in electrical engagement, contact plates 19 and 20, respectively, upon a plug member *k* carried within the detachable end cap 11, and consisting of an insulating body 21, suitably secured within the cap 11 as by a transverse pin 22. Electrically connected with the respective contact plates 19 and 20 by means of binding screws 23 and 24, are insulated supply wires, 25 and 26, respectively, which are properly insulated and twisted together, if preferred, to form a customary braided cord connection between a suitable source of electrical supply and the electrical curling iron. Said supply wires 25 and 26 enter the cap 11 through a suitable end perforation 27. The plug member *k* closes a circuit through the supply wires 25 and 26, the spring jacks 17 and 18 and the line wires 13 and 14, through the agency of the contact plates 19 and 20 thereon when the end cap 11 is slipped over the inner end portion of the main grip 9 constituting the grip or handle member *c*.

The member B, which carries or comprises one of the heating irons *a* in such position that it may be passed between or intermediate of the two relatively separated heating irons *a* of the member A, comprises an angular central seat portion 28, which is pivotally connected with the outer end portion 8 of the grip or handle member *c*, intermediate of the socket pieces 7, as at 29, whereby the grip or handle member *d* normally extends beneath and parallel with the grip or handle member *c*, and the heating iron *a* of the member B normally lies in a plane beneath the plane which includes the irons proper *a* of the member A. The pivotal connection at 29, or *b*, may be of any suitable nature, as by a pin 30.

The grip or handle member *d* is preferably of looped or bowed formation, open to the reception of fingers of the user of the device, and the grip or handle member *c* may be provided with a combined grip guard and locking means 1, consisting of a looped central portion 31, and end portion 32 encircling the main grip 9, and an opposite open end portion 33 detachably connected with, or adapted for detachable connection with the outer end portion 8 of the grip or handle member *c*, as by a pin 34. When the end portion 33 is connected with the portion 8 of the grip or handle member *c*, the parts 8 and 9 of the latter are freely held together in operative connection.

Each of the heating irons *a* consists of a preferably metallic tube 35, having a closed outer end 36; the inner end portion thereof being detachably connected, as by threads 37, at *g*, with the respective socket pieces 7; one of said socket pieces 7 being provided for

the member B, at the outer extremity of the central angular portion 28. Each of said tubes 35 is provided with an inner insulating lining 38; and disposed centrally thereof, longitudinally of each of said tubes 35 is an exteriorly insulated conducting stem or rod 39, fixed to an insulating plug 40 which closes the inner end portion of the tube 35.

Coiled about the stem or rod 39, and connected with the outer end thereof, is a length of resistance wire 41, the inner end portion of which projects through the plug 40 and connects with an annular contact plate 42, seated in the face of the plug 41 opposite to that from which projects the stem or rod 39. Said stem or rod 39 may also be of resistance material, if desired; and is provided with a contact head 43 which connects with the inner end portion thereof and projects beyond the face of the plug 40 which carries the contact plate 42. Each socket piece 7, otherwise open, is closed at its outer end portion by an insulating plug 44, provided at its outer face with an annular contact plate 45 arranged to register with the annular contact plate 42; and extending through said plug 44 is a contact head 46 arranged to register with the contact head 43. The line wires 13 and 14 are connected with the annular contact plate 45 and with the contact heads 46, in multiple, being looped through the socket pieces 7, and extending into the intermediate socket piece 7 through an opening 48 therein from openings 49 in the other socket pieces.

The shield or apron *h* extends longitudinally of and above the heating irons *a*, being looped over the same, and centrally connected longitudinally, as at 50, with the upper portion of the intermediate heating iron *a*.

The operation, method of use and advantages constituting the invention will be readily understood from the foregoing taken in connection with the following statement: With the parts all assembled as shown in the drawing, a closed electrical circuit will extend through the supply wires 25 and 26, the contact plates 19 and 20, the spring jacks 17 and 18, the line wires 13 and 14, the annular contact plates 42 and 45 and the contact heads 43 and 46, and through the resistance wires 41 and connecting stems or rods 39; and the resistance wires 41, as well as the stems or rods 39 if they be of resistance material, will transform the electrical energy into heat within each and all of the heating irons *a*. When the latter are suitably heated, the hair of the user is passed about the heating irons *a* preferably over the exterior ones, under the guard *h*, and under the intermediate heating iron *a*. The members A and B are then manipulated, by means of the grip or handle members *c* and *d*, so as to press and wave or curl the hair. The de-

tachable connection of the heating irons *a* with its respective socket piece 7, as at *g*, permits interchanging of said parts, if desired, and substitution of fresh parts after long use and consequent deterioration, such as burning out. This detachable feature renders repair of the heating irons with convenience, and is an essential feature of the invention. The detachable connection of the parts of the grip or handle member *d*, as at 10 and 12, also permits convenient repair and assembling of the electricity supply means *e* and the plug member *k*.

The entire device is compact in form, and may be modified with respect to design and arrangement of parts to meet particular conditions of service. I therefore do not desire to be understood as limiting myself to the specific construction, provision, combination, association, and relative arrangement of parts, members and features shown and described but reserve the right to vary the conditions of use without departing from the spirit of the invention, or the terms of the following claims.

Having thus described my invention, I claim and desire to secure by Letters Patent:—

1. An improved device of the character described, comprising a tubular handle member; electricity supply means located within the handle member; said handle member being provided with a detachable portion;

said electricity supply means comprising spring jacks, and a plug member having contact plates adapted for engagement with said spring jacks and provided with supply wires for connection with the supply of electricity; two connected outer heating irons; a relatively movable intermediate heating iron; said heating irons being each provided with electricity resisting means for heating the same and electrically connected with said electricity supply means; and a shield or apron connected with said intermediate heating iron and looped over the outer heating irons.

2. In an improved device of the character described, a separable handle member or grip provided with a guard connected with one of the portions of the grip and adapted for connection with another portion thereof, as locking means for uniting said portions.

3. In an improved device of the character described, two connected outer heating irons, a relatively movable intermediate heating iron, and a shield or apron connected with said intermediate heating iron and looped over the outer heating irons.

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

CHARLES W. WILMOT.

Witnesses:

FRED A. MANSFIELD,
TELLIE E. ADAM.