(Model.)

# C. W. MAJOR.

## CURLING IRON.

No. 563,291. Patented July 7, 1896.

FIG. 1

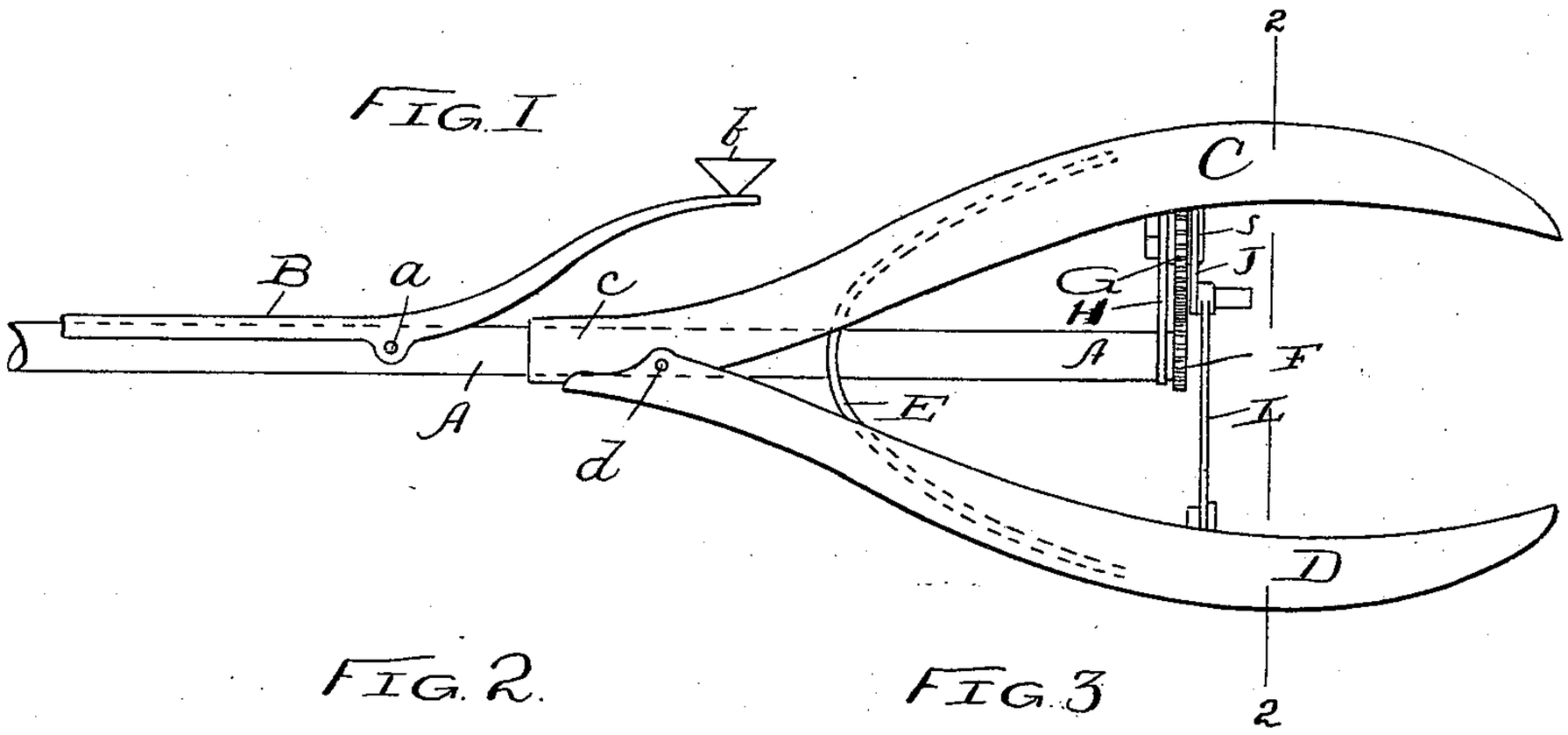



FIG. 2.

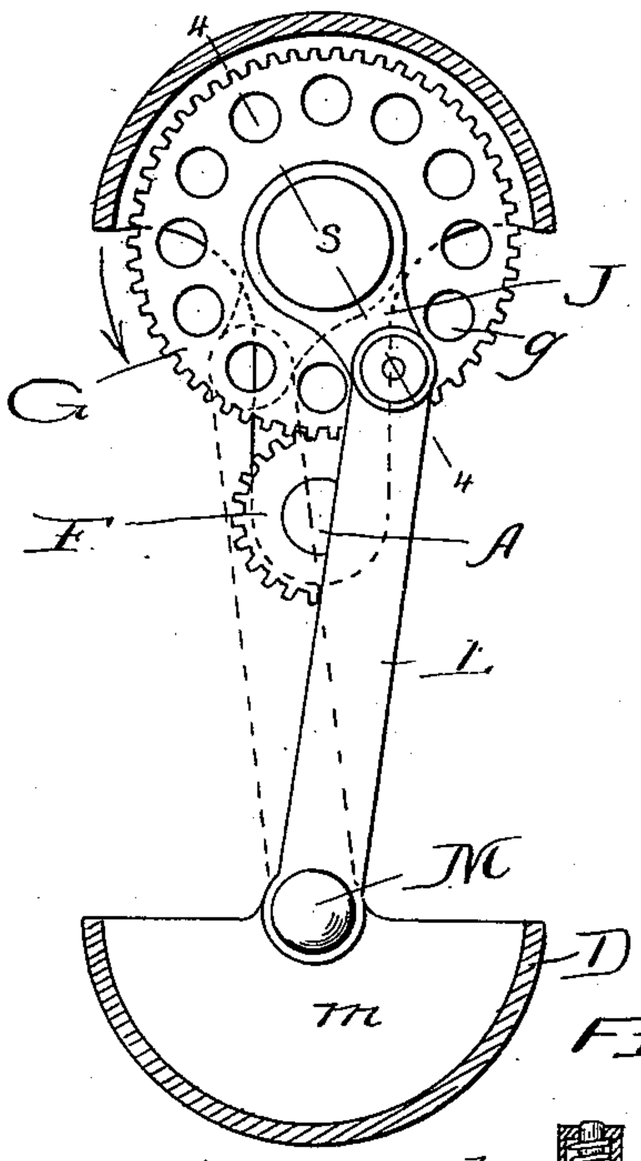



FIG. 3

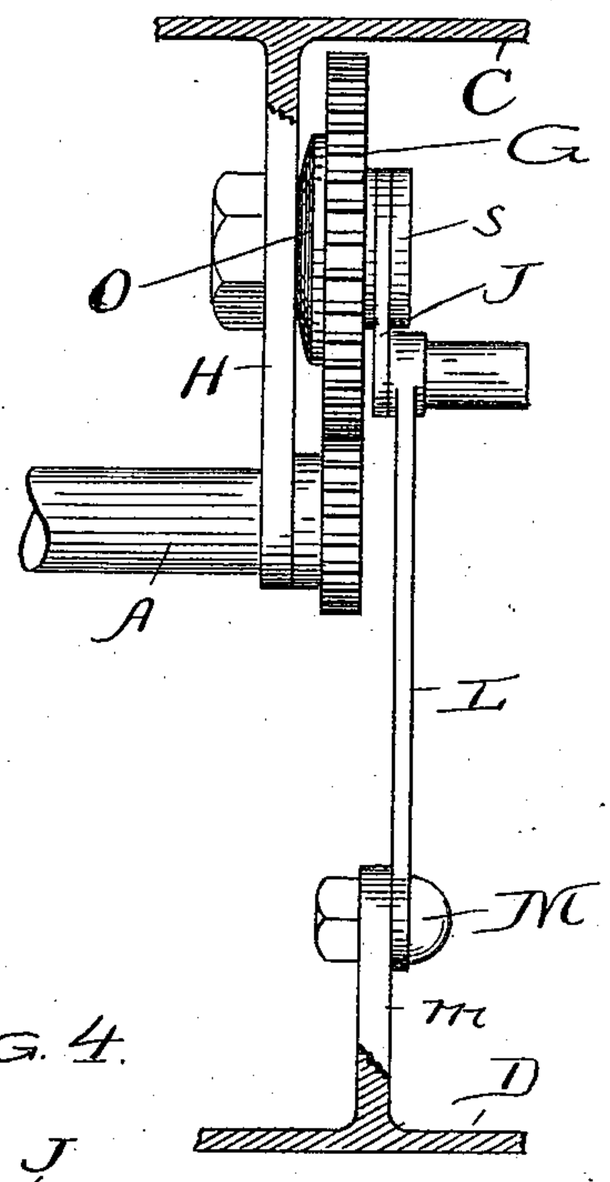
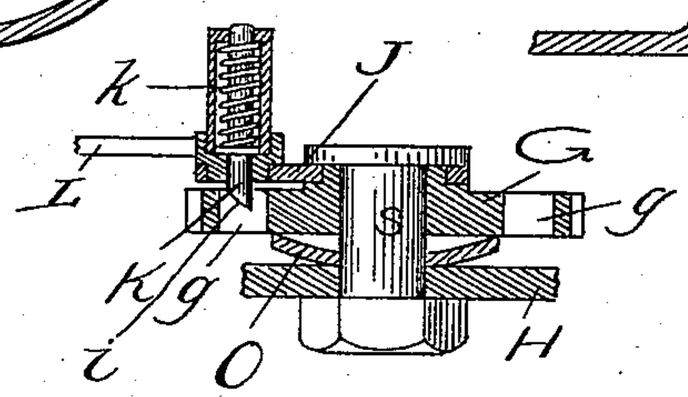



FIG. 4.

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# UNITED STATES PATENT OFFICE.

CHARLES W. MAJOR, OF OTTUMWA, IOWA, ASSIGNOR TO HIMSELF AND JOHN B. DENNIS, OF SAME PLACE, AND GUY G. MAJOR, OF TOLEDO, OHIO.

## CURLING-IRON.

SPECIFICATION forming part of Letters Patent No. 563,291, dated July 7, 1896.

Application filed April 18, 1894. Serial No. 508,028. (Model.)

*To all whom it may concern:*

Be it known that I, CHARLES W. MAJOR, a citizen of the United States, residing at Ottumwa, in the county of Wapello and State of Iowa, have invented a new and useful Improvement in Hair-Curlers, of which the following is a specification.

This invention relates to the construction of hair-curling irons, and is an improvement upon that class of those devices wherein the curling-mandrel to which the hair is secured is given a rotary movement in the supporting-handles by mechanism set in motion by alternately compressing and releasing the handles. As heretofore constructed these curlers have been capable of imparting a rotary motion to the curling-mandrel in only one direction, and this fact leads to wrong results in the use of the curler, because turning only in one direction the mandrel will curl the hair upon one side toward the face and upon the other side from the face. My design in this invention has been to overcome this objection.

In the drawings, Figure 1 is a side elevation of my improved curler. Fig. 2 is a section upon the line 2 2 of Fig. 1. Fig. 3 is a section at right angles to Fig. 2 of the actuating mechanism. Fig. 4 is a section on the line 4 4 of Fig. 2.

In said drawings, A represents the curling-mandrel, around which the hair is wound and to which it is secured by the clamping-bar B, pivoted at *a* to the mandrel and made semi-circular in cross-section, so that it will fit the exterior of the mandrel A, and provided with a spring, (not shown,) whereby it is caused to clamp the hair firmly to the mandrel. One end of this bar is bent outwardly from the mandrel and provided with a button *b*, of non-heat-conducting material, whereby it may be opened to release or insert the hair.

C is one of the handles, and it is made to encircle the mandrel and form a bearing therefor at *c*. The other handle D is pivoted to the handle C at *d*. Both handles are hollowed out upon their inner surfaces and a spring E is placed between them and acts to keep them normally spread.

The mandrel A extends in between the handles and is journaled therein as described, so that it may rotate independent of any rotation of the handle, and is provided with mechanism whereby it may be rotated, including reversing-gearing and means for shifting the latter. Describing the preferred form of said devices in detail, F is a pinion upon the inner end of the mandrel which meshes with a larger pinion G, serving also as a ratchet-wheel, as hereinafter stated. This pinion G is supported by a stud *s*, supported in an arm H, secured to the inner surface of handle C. This arm H also encircles and supports the end of the mandrel A. Journaled upon the same stud which supports the pinion G is a guide-arm J, and pivotally joined to said arm and operating the same is a pitman or lever L, having its further end pivoted upon a stationary stud M, supported in a cross-web *m* of the handle D. In the center of the pivot uniting the arm J and pitman L is a pawl K, adapted to engage successively the openings *g* in the web of the pinion G. The pawl K is actuated to enter these openings by the spring *k* and lifts out of them by reason of the inclined face *i* of its acting end whenever the pitman is drawn back after each operation of the mandrel. With this construction it will be noticed that, supposing the handles to be brought together by the user while the parts are in the position indicated at Fig. 2, the ratchet-pinion G, through the engagement of the pawl therewith, will be moved in the direction indicated by the arrow, thus imparting a rotary motion to the mandrel. The opening of the handles which immediately follows causes the withdrawal of the pawl from the opening *g* in which it rested at the beginning of the operation and its engagement with the opening *g* next in succession. This operation is repeated as often as is necessary to wind the hair upon the mandrel, the succeeding impulses being in the same direction as the first one.

To reverse the winding movement, the mandrel is turned through a half-revolution or thereabout, so as to bring the pawl which engages the ratchet to the other side of the plane of the axis *s* of ratchet G. When this has been done, it will be obvious that the operation of the handles will cause a reversed rotation of the ratchet and the curling-man-

drel. In effecting this change or reversal of direction the mandrel is most conveniently turned by applying power to the button *b*. The change can be made almost instantly and easily, so that the implement is as well fitted for winding the hair in one direction as the other.

A friction disk or washer O is preferably employed to prevent any undesired backward movement of ratchet-pinion G.

I claim—

1. A hair-curler consisting of the combination of a rotatable mandrel, handles connected with and carrying said mandrel, one of which handles is movable toward and from the mandrel, a reversible gearing connected with the mandrel and with said movable handle, and means for reversing said gearing, whereby the mandrel may be rotated in either direction at the will of the operator, substantially as set forth.

2. A hair-curler consisting of the combination of a rotatable mandrel, handles carrying said mandrel one of which is movable toward and from the same, a ratchet connected with the mandrel, a pivoted connection carrying a pawl and adapted to be swung to one side or the other of the axis of rotation of said ratchet, and a link or connecting part between said connection and the movable handle, whereby the mandrel may be rotated in either direction at the will of the operator, substantially as set forth.

3. A hair-curler consisting of the combination of a rotatable mandrel, handles carrying said mandrel one of which is movable toward and from the same, a pinion mounted on the mandrel, a gear-wheel engaging said pinion and mounted upon one of said handles, a pawl for operating said gear-wheel and a connection between said pawl and the movable handle, and means for shifting said pawl and its connection from one side to the other of the center of rotation of the gear-wheel, substantially as set forth.

4. A hair-curler consisting of the combination of a rotatable mandrel, handles carrying said mandrel one of which handles is movable toward and from the same, a ratchet connected with the mandrel, an oscillating arm adapted to be shifted from one side to the other of the axis of the ratchet, a pawl carried by the arm, and a link connecting said arm with the movable handle, substantially as set forth.

5. In a hair-curling implement, the combination of a handle, a mandrel journaled therein, mechanism, including reversing-gearing for rotating the mandrel independent of any rotation of the handle, and means for shifting such gearing, whereby the mandrel may be rotated in either direction.

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Witnesses:
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