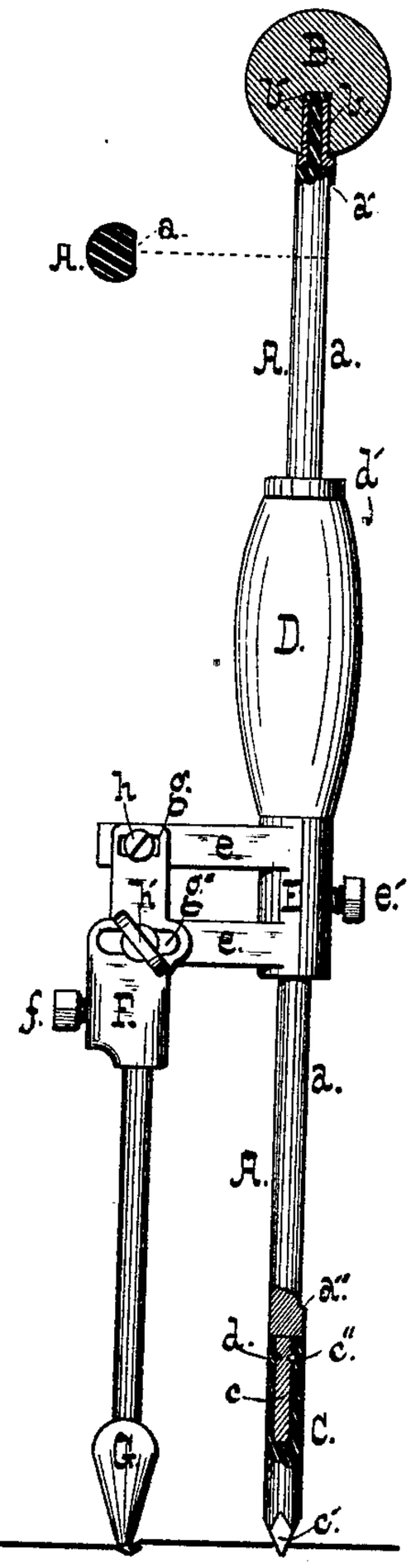
J. J. HENRY.

Soldering-Iron.

No. 219,815. Patented Sept. 23, 1879.



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UNITED STATES PATENT OFFICE.

JOHN J. HENRY, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF HIS RIGHT TO FRANK K. TYLER, OF SAME PLACE.

IMPROVEMENT IN SOLDERING-IRONS.

Specification forming part of Letters Patent No. **219,815,** dated September 23, 1879; application filed August 5, 1879.

To all whom it may concern:

Be it known that I, JOHN JOSEPH HENRY, of Baltimore city, State of Maryland, have invented certain new and useful Improvements in Soldering-Irons; and I hereby declare the same to be fully, clearly, and exactly described as follows, reference being had to the accompanying drawing, in which the device is illustrated in side elevation.

My invention relates to that class of soldering-irons in use for capping provision-cans; and it consists in certain improvements upon the iron for which Letters Patent were granted me April 1, 1879, and numbered 213,902.

In the practical working of the class of soldering-irons to which my present invention and my patented improvement belong, an obstacle was met in the matter of the wearing of the center rod from the revolution about it of the handle.

My former invention had for one of its objects to obviate this evil by providing means for taking up the wear as it occurred.

In the present case I cause the rod to revolve with the handle, instead of the handle about the rod, whereby the wearing of the rod is wholly prevented.

The invention consists in certain features of construction, which are made the subject of the claims.

In the drawing, A is a rod, preferably of steel and cylindrical in shape, except that it has a flattened side, *a*, extending from *a'* to *a''*. As an alternative for this construction the rod may be polygonal in cross-section; but the described construction is preferred, as it admits of the device being used in the old way, the handle D being caused to revolve about the rod—a feature which becomes of importance should the point C become rusted, or for some reason refuse to revolve.

B is a handle, of wood or some other bad conductor of heat, which is provided with a thimble, *b*, in which the end of the rod A turns, being headed at *b'* above the thimble, as shown.

C is the tip, having a pyramidal point, *c'*, to be stepped in the center hole of the can-cap and admit of the escape of the air. The end *c* of the rod A is stepped in the tip, as shown, and has an annular groove, *d*. A pin, *c''*, through the tip engages with this groove and holds the tip on the rod.

D is the tool-holder handle, having a bushing, *d'*, at its upper end, and carrying at its lower end the sleeve E, through which latter a screw, *e'*, passes, and, engaging with the flat side of the rod A, prevents revolution of the handle D about the rod unless retracted. The screw is not driven into contact with the rod, whereby, while preventing revolution of the handle, it admits of its being slid back and forth on the rod.

Arms *e e* are made integral with the sleeve E and sustain the tool-holder F. The shank of the latter is slotted at *g g'*, and through the slots pass screws *h h'*, whereby the holder may be adjusted laterally while still being maintained parallel to the axis of revolution. This enables the user to adjust the device for soldering various-sized can-caps while having the iron vertically over the seam in each case.

The advantage of this will be apparent when it is remembered that the edge of the iron is somewhat curved, and a motion of the tool with reference to the axis of rotation after the manner of a pair of dividers, as heretofore, causes the center of the soldering-edge to rise slightly and the corners to catch in the groove.

The pyramidal point *c'* has an ulterior function beyond that of allowing the air to escape from the can. It catches in the tin and enforces the rotation of the rod with reference to itself, preventing its operating after the manner of a reamer, and enlarging the hole in the can-cap.

The operation of the device is as follows: The iron G being heated, and the cap laid in place on the can, solder is applied to the groove, and the rod being stepped in the center hole of the cap, the iron is revolved by means of the handle D upon the solder until it is evenly spread in the groove.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a soldering-iron, a tool-holder handle mounted upon and arranged to rotate with a center rod, which latter is provided with a swiveling tip, as set forth.

2. In a soldering device, a rod carrying the soldering-iron, and arranged to revolve there-

with, and provided with a swiveling tip and terminal handle, substantially as described.

3. In a soldering-iron, a center rod having a swiveling tip, and carrying a tool-holder handle which slides upon the rod, as set forth.

4. In a soldering-iron, a center rod having a swiveling tip, and carrying a tool-holder handle provided with mechanism for clamping the handle with reference to the rod, substantially as described.

5. In a soldering-iron, a center rod having a flattened side, as described, and swiveling tip and terminal handle, in combination with a tool-holder handle arranged to slide upon the rod and be rotated with the said rod or independent of it, as and for the purpose described.

6. In combination with the handle D, sleeve E, and tool-holder F, the flattened rod A and screw *e'*, as described.

7. In combination with the center rod A and handle D, the sleeve E, arms *e e*, slotted holder F, and screws *h h'*, as set forth.

8. In a soldering-iron, a center rod adapted to hold the can-cap in place, and provided with a swiveling tip, and a tool-holder handle arranged to revolve with the said rod and to slide freely upon it, as set forth.

9. The soldering device herein described, consisting of the rod A, arranged to revolve with the handle D, and having the swiveling handle B, the sleeve E, and swiveling pyramidal pointed tip C, and the tool-holder F, laterally adjustable parallel to the rod, substantially as described.

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