

C. M. DRAVO.
Soldering-Iron.

No. 226,602.

Patented April 20, 1880.

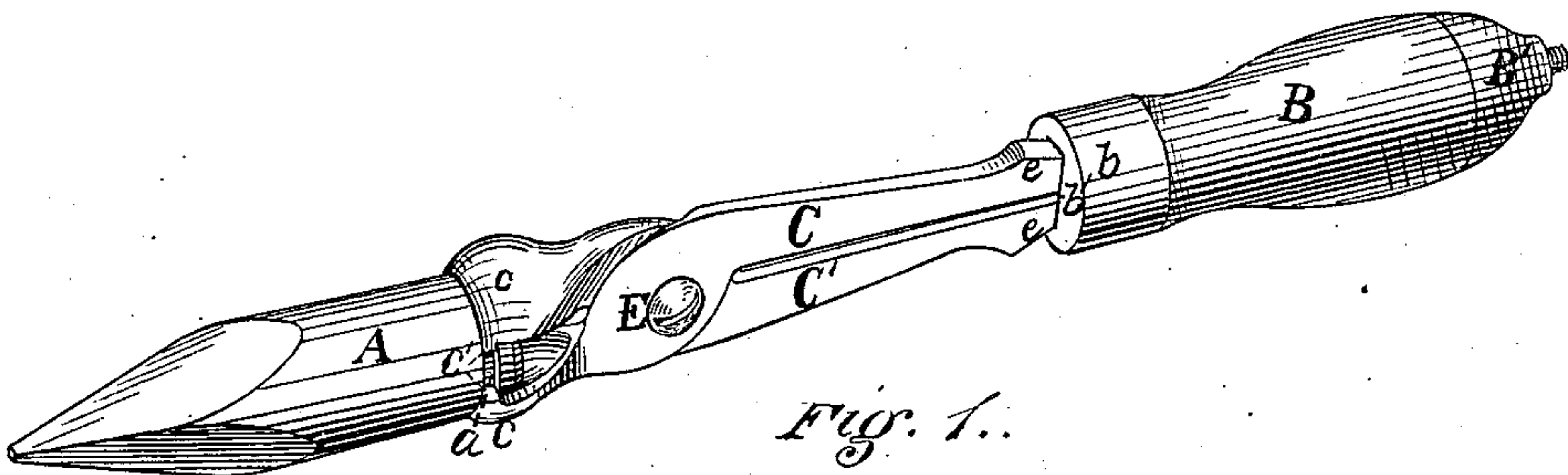


Fig. 1.



Fig. 2.

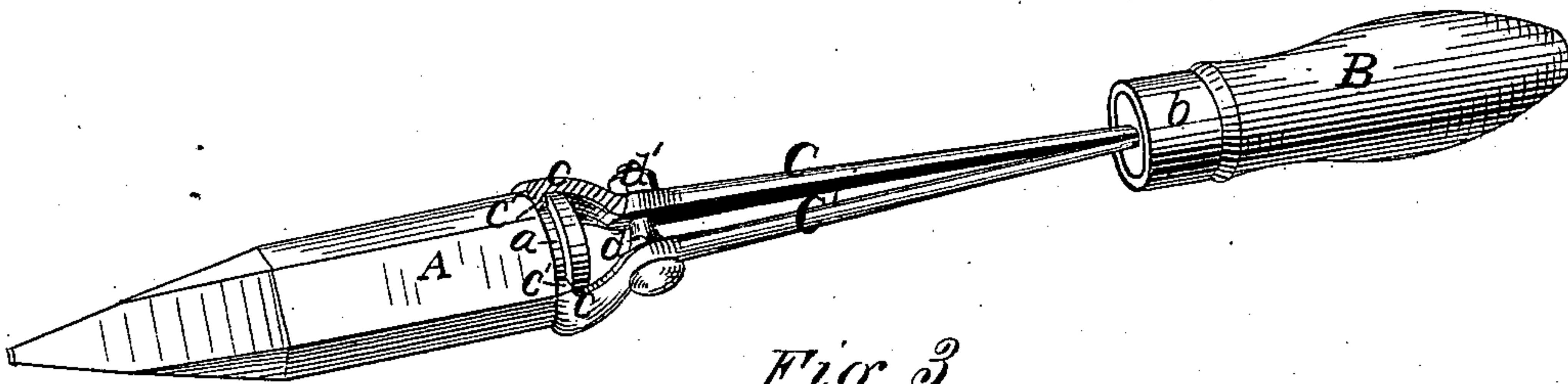


Fig. 3.

Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES M. DRAVO, OF ALLEGHENY, PENNSYLVANIA.

SOLDERING-IRON.

SPECIFICATION forming part of Letters Patent No. 226,602, dated April 20, 1880.

Application filed February 19, 1880.

To all whom it may concern:

Be it known that I, CHARLES M. DRAVO, of Allegheny city, county of Allegheny, State of Pennsylvania, have invented or discovered a new and useful Improvement in Soldering-Irons; and I do hereby declare the following to be a full, clear, concise, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—like letters indicating like parts—

Figure 1 is a perspective view of my improved soldering-iron. Fig. 2 shows a sectional elevation of the same; and Fig. 3 illustrates, by a perspective view, certain modifications in the details of construction and application of my invention.

It has been found desirable, for various reasons, to make the handle and shank of soldering-irons readily detachable or separable from the copper point. Various devices have been used for this purpose; but so far as I am aware such devices have in common the objection that they do not hold the copper point firmly and securely, owing in part to the manner in which their clamping-jaws engage the coppers and in part to the manner or means by which they are held in engagement.

My invention relates to the construction and adaptation of the parts of this class of soldering-irons, as hereinafter described, whereby I overcome the objections referred to and secure a cheap and serviceable article.

In the drawings, A represents the copper of a soldering-iron, which is provided with the usual pyramid point. The body of such copper may be round, as in Fig. 1, or polygonal, as in Fig. 3. In order to connect it with the handle B, I make use of clamping-arms C C', the gripping-jaws *c c* of which are given a rounded concavo-convex form, and are made somewhat larger than the body of the copper, so as to encircle or inclose, by preference, the greater part of its base end.

Inwardly-bent lips or flanges *c'* are made on the extremities of jaws *c c*, which lips are also rounded or arched and adapted to fit into a circumferential groove, *a*, made in the base end of the copper. The curve of lips *c'* is, by preference, the same as that of the bottom of groove *a*, so as to clamp or bear thereon

around a considerable part of the circumference of the copper, and thus hold it firmly by outside bearings, not only in the direction of the plane of the jaws, but also in a direction at right angles to such plane. By such construction of the jaws the copper will be held much more firmly than if the jaws clamped into comparatively narrow notches in the opposite flat faces of the copper, so as to hold the same on such opposite sides only.

In Figs. 1 and 2 the arms C C' are coupled or jointed together at E like a pair of tongs. One arm, C, is made longer than the other, and the wooden handle B is placed loosely on the extended end of C.

Instead of using a separate or independent sliding ring for holding or binding the ends of the arms, as has been done, I make use of the handle B for this purpose. To this end I make a hole or opening, *b'*, in the end of ferrule *b*, adapted to the rectangular form of the arms at the inclines *e e*. These inclines are made by enlargements on the outer edges of the arms between the end of C' and joint E.

When the jaws are brought together for clamping the copper, the handle B is slipped forward over the end of C' until the ferrule *b* clamps or binds them by bearing upon the inclines *e*; then, by screwing up the nut B', which is fitted on the end of C, the handle will be held to such position. By unscrewing the nut the handle may be slipped back, so as to release the short arm C', when the jaws may be opened and the copper A removed.

Any form of nut B' may be used; but I prefer to give it a rounded exterior, as shown, so as to form a rounded and smooth end on the handle.

By fitting the opening *b'* in the ferrule to the flattened or rectangular arms at *e e*, I prevent rotary movement of the handle upon the arms when in use, and by arranging the handle to do the work of binding the arms, with nut B' to hold it to its work, I hold the arms much more securely than can be done with a separate ring, and also the inconvenience and annoyance of such a ring are obviated.

In Fig. 3 I have shown a modification in the means for clamping the jaws. In this case I fix the ends of the arms C C' in the handle B so as to be stationary therein, and their cen-

ter of motion in opening and closing is at the front end of the handle. In order to clamp the jaws, I pass a bolt, *d*, through C and C', a little back of the jaws *c c*. A nut, *d'*, on the
5 end of the bolt will compress or close the jaws as it is screwed down, and when unscrewed the jaws may be separated and the point A removed. I prefer to make these arms C C' of spring metal, and so set them in the handle B
10 that they will open by their spring action when the nut *d'* is unscrewed.

The grippers or jaws *c c* are constructed and adapted, as before described, so as to give a peripheral bearing around a considerable part
15 of the circumference of groove *a*.

I claim herein as my invention—

In a soldering-iron, the tongs C C', having gripping-jaws *c c*, one arm, C, being extended beyond the other, with flattened or rectangular-shaped inclines *ee* thereon, in combination 20 with sliding handle B, having thereon a ferrule, *b*, with opening *b'* therein, adapted to the form of the arms at the inclines, nut B', and removable copper A, substantially as set forth.

In testimony whereof I have hereunto set 25 my hand.

CHARLES M. DRAVO.

Witnesses:

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