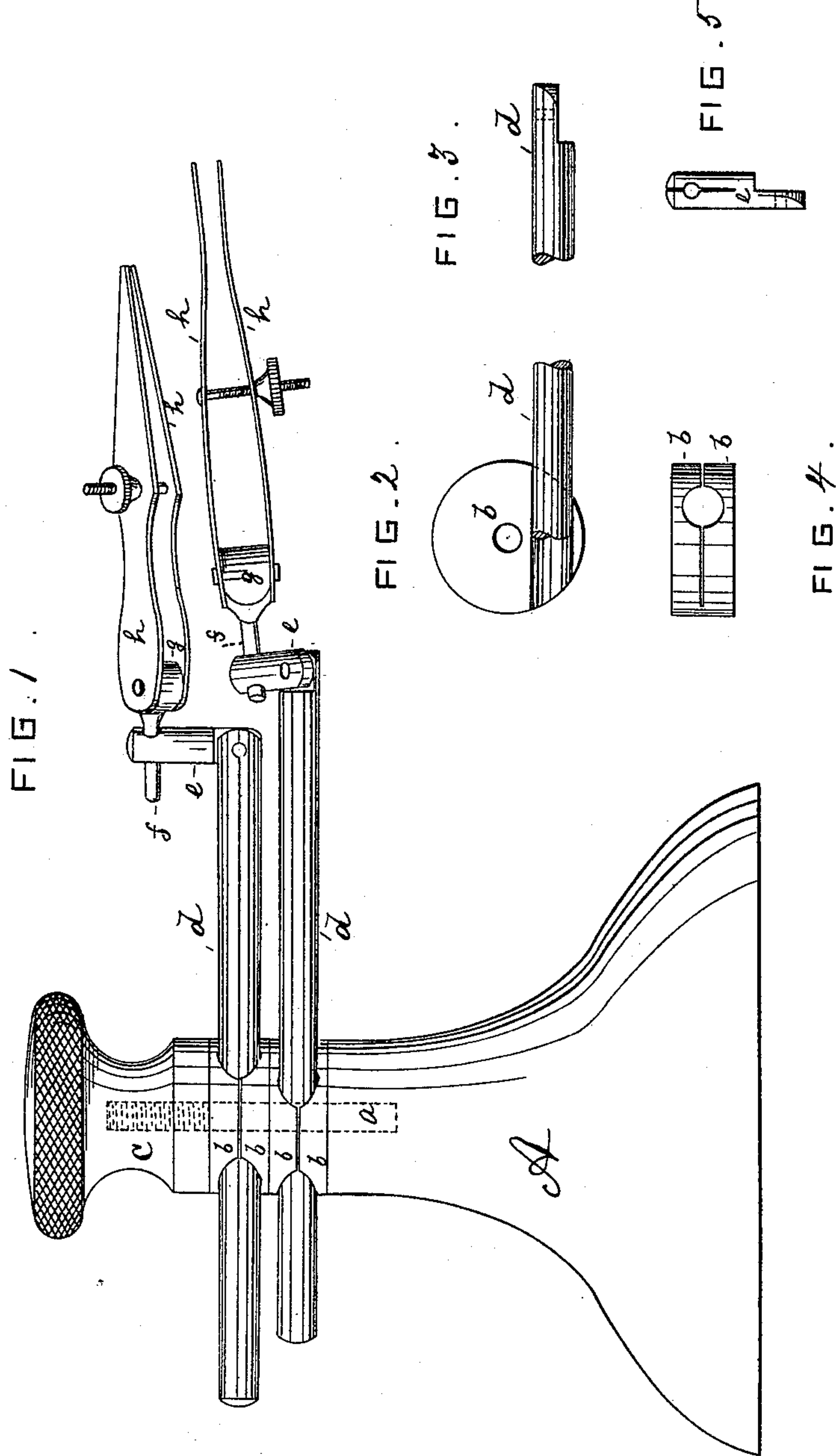


(No Model.)

E. Q. CRANE.
SOLDERING FORCEPS.

No. 328,467.

Patented Oct. 20, 1885.



WITNESSES
Herbert Sandyk
W. A. Seacock

E. Q. Crane
INVENTOR

UNITED STATES PATENT OFFICE.

EDWARD Q. CRANE, OF NEW YORK, ASSIGNOR OF ONE-HALF TO RICHARD HAMPTON, OF BREWSTER, NEW YORK.

SOLDERING-FORCEPS.

SPECIFICATION forming part of Letters Patent No. 328,467, dated October 20, 1885.

Application filed July 31, 1885. Serial No. 173,146. (No model.)

To all whom it may concern:

Be it known that I, EDWARD Q. CRANE, of the city of New York, county of New York, and State of New York, have invented new and Improved Soldering-Forceps, of which the following specification is a full, clear, and exact description.

This invention relates to forceps for holding jewelry and other fine articles while being soldered.

The object of the invention is to produce forceps which will hold the work at any desired position or inclination, and which will clamp it in place after being adjusted.

The invention consists in the various features of improvement hereinafter more fully pointed out.

In the accompanying drawings, Figure 1 is a side view of my improved forceps. Figs. 2, 3, 4, and 5 are detail views of parts thereof.

The letter A represents the post or standard of my improved implement, the same being enlarged at the bottom to form a proper base, and carrying at its upper end an upwardly-projecting pin, *a*, which is shown in detail lines in Fig. 1.

Upon the upper side of post A there are placed two rings, *b b*, which are perforated at the center vertically, so as to fit a round pin, *a*. The peculiar construction of rings *b* will be described more in detail further below.

A thumb-nut, *c*, encircles the upper screw-threaded end of pin *a*, and by raising or lowering said nut the rings *b* are either loosened or clamped firmly in place between the nut and the upper side of post A. Each ring *b* is partially split horizontally, Fig. 4, so that its free ends are not in contact with each other unless under pressure. A horizontal perforation in the line of a chord extends through each ring *b*, a portion of said perforation being in the upper and a portion in the lower half of the ring.

d d are the arms that carry the forceps. These arms extend with one end through the horizontal perforations of rings *b*, while at their other end they are swiveled to a stud, *e*. The connection between arms *d* and studs *e* is made preferably by reducing the meeting edges of the parts, Figs. 3 and 5, and joining them by a pivot-pin. The other end of each stud *e* is perforated to embrace a pin, *f*, which

is free to be revolved in its seat. This pin *f* is enlarged at its outer end to form the separating-head *g* between the spring-jaws *h h* of the forceps proper. A pin extending through a central perforation of head *g* and through the jaws *h h* permits the forceps to be turned around the head toward the right or left, as may be desired.

The jaws *h h* of each pair of forceps have a tendency to spring apart, and the distance between their free or biting ends may be raised by means of the customary pin and nut. (Shown in the drawings.)

By the construction above described it will be seen that the arms are free to revolve with the rings *b*, and also around their longitudinal axis, if not clamped down. The studs *e* may be oscillated backward or forward, and the pin *f*, carrying the jaws *h*, may be revolved to the right or left. In this way the work may be accurately adjusted.

The operation of the device is as follows: The nut *c* is first loosened, and the work is clamped between the spring-jaws and its position is adjusted. The nut *c* is then tightened down to compress the two halves of each ring *b*, and to thus clamp the arms *d* in place.

I claim as my invention—

1. The combination of standard A with upwardly-projecting pin *a*, split rings *b*, and nut *c*, the rings *b* being perforated for the reception of the forceps-carrying arms *d*, substantially as specified.

2. The combination of standard A with arms *d*, clamped to said standard, and with studs *e* and pins *f*, having heads *g*, and with spring-jaws *h h*, swiveled to head *g*, substantially as specified.

3. The combination of a single standard, A, connected to two arms, *d d*, in such a manner that the same may be revolved around the standard, and with spring-jaws *h*, attached to arms *d* by intermediate pieces, *e f*, substantially as specified.

4. The combination of standard A with pin *a*, rings *b*, nut *c*, arms *d*, studs *e*, pins *f*, head *g*, and jaws *h*, substantially as specified.

EDWARD Q. CRANE.

Witnesses:

A. B. SMITH,
HALCYON M. CLOSE.