A. SCHWERTER.

TOOL FOR OPENING JEWELS.

No. 188,757. Patented March 27, 1877.

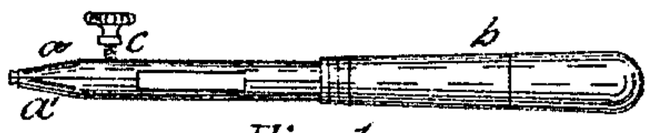

Fig. 1

Fig. 2.

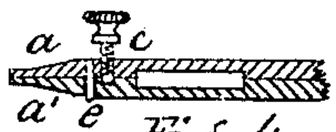

Fig. 4

Fig. 3

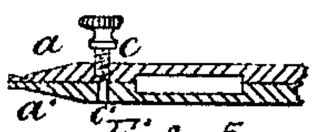

Fig. 5.

Witnesses.

E. St. Johnson.

Chas. Brown

Inventor:

Augustus Schwerter.

per Alfred Theobald

Atty.

UNITED STATES PATENT OFFICE.

AUGUSTUS SCHWERTER, OF NEW YORK, N. Y.

IMPROVEMENT IN TOOLS FOR OPENING JEWELS.

Specification forming part of Letters Patent No. **188,757**, dated March 27, 1877; application filed December 12, 1876.

To all whom it may concern:

Be it known that I, AUGUSTUS SCHWERTER, of the city, county, and State of New York, have invented certain new and useful Improvements in Tools for Opening Jewels, of which the following is a specification:

The tools now in use for raising the bezel of jewel-settings for the purpose of replacing the stone are large and heavy, and consequently awkward to use, and will sometimes tear away the bezel, if not very carefully manipulated. The object of this invention is to overcome these difficulties by making a jewel-opener that shall be small and light, and at the same time sufficiently strong and firm in the jaws; and it consists in making the screw which forces the jaws apart against the inside of the bezel with a plain cylindrical end smaller than the threaded portion of the screw, which fits into a hole in the jaw against which the shoulder of the plain portion bears, and thus acting as a steady-pin prevents the jaws from twisting. I also propose, in some cases, to use an auxiliary steady-pin in front of the screw; but, to describe my invention more particularly, I will refer to the accompanying drawings, in which—

Figure 1 is a side view of my invention. Fig. 2 is a similar view with the jaws shown in section and partly open. Fig. 3 is an end view of the jaws. Figs. 4 and 5 are views showing modifications.

The jaws *a* and *a'* are made of half-round steel wire, fastened together at their ends, which are secured in the handle *b*, made of wood or other light material. The front ends of the jaws are made conical, the extreme ends being formed with reverse cones, as shown at Fig. 1. It is sometimes advantageous to have the ends of the jaws cylindrical, as shown at Fig. 4, or one of them cylindrical and the other one conical, as shown at Fig. 5. The central portions of the half-round steel wires are cut away, so as to make them elastic, they, in their normal condition, being close together. The threaded portion of the opening-screw *c* is fitted into a tapped hole in the full part of the wire *a*, between the jaw and the reduced part, the plain portion *c'* of the screw passing into a plain hole in the other jaw *a'*. The shoulder of the screw bearing against the inside of this jaw, the jaws are separated and caused to bear against the inside of the bezel by turning the screw. Just in front of the screw *c* the square or round steady-pin *e* is secured in one of the jaws, and fits freely in a hole in the other jaw.

Instead of making the jaws of half-round wire, they may be made of round wire, split up the middle.

The tool being about the size shown in the drawings—that is, between two and three inches in length, enables it to be held by the first three fingers of the hand, the rear end of it bearing against the palm, the body of it supported on the third finger, while the thumb and index-finger operates the screw until the jaws press sufficiently hard against the bezel, and are then employed to turn the tool around, thus opening and straightening out the bezel.

It will be observed that by manipulating a jewel-opening tool in this way there is no danger of injuring the setting, as the tool can be turned quite steadily, at the same time withdrawing it slightly, so as to effectually open the bezel.

In Fig. 4 the screw *c*, instead of passing through a hole in the jaw *a'*, the end of it fits into a recess, against the bottom of which it bears. In Fig. 5, the steady-pin *e* is left out, the plain portion *c'* of the screw forming, in some cases, a sufficient steady-pin.

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

1. In an instrument for opening jewels, the combination of the screw *c*, provided with the plain portion *c'*, with the jaws *a* and *a'*, the said screw forcing the jaws apart against the action of their spring, the plain portion *c'* acting as a steady-pin, to add to the rigidity of the jaws, substantially as hereinbefore set forth.

2. The combination of the screw *c*, steady-pin *e*, and spring-jaws *a* and *a'*, substantially as and for the purpose hereinbefore set forth.

AUGUSTUS SCHWERTER.

Witnesses:

E. H. JOHNSON,

DANL. BROWN.