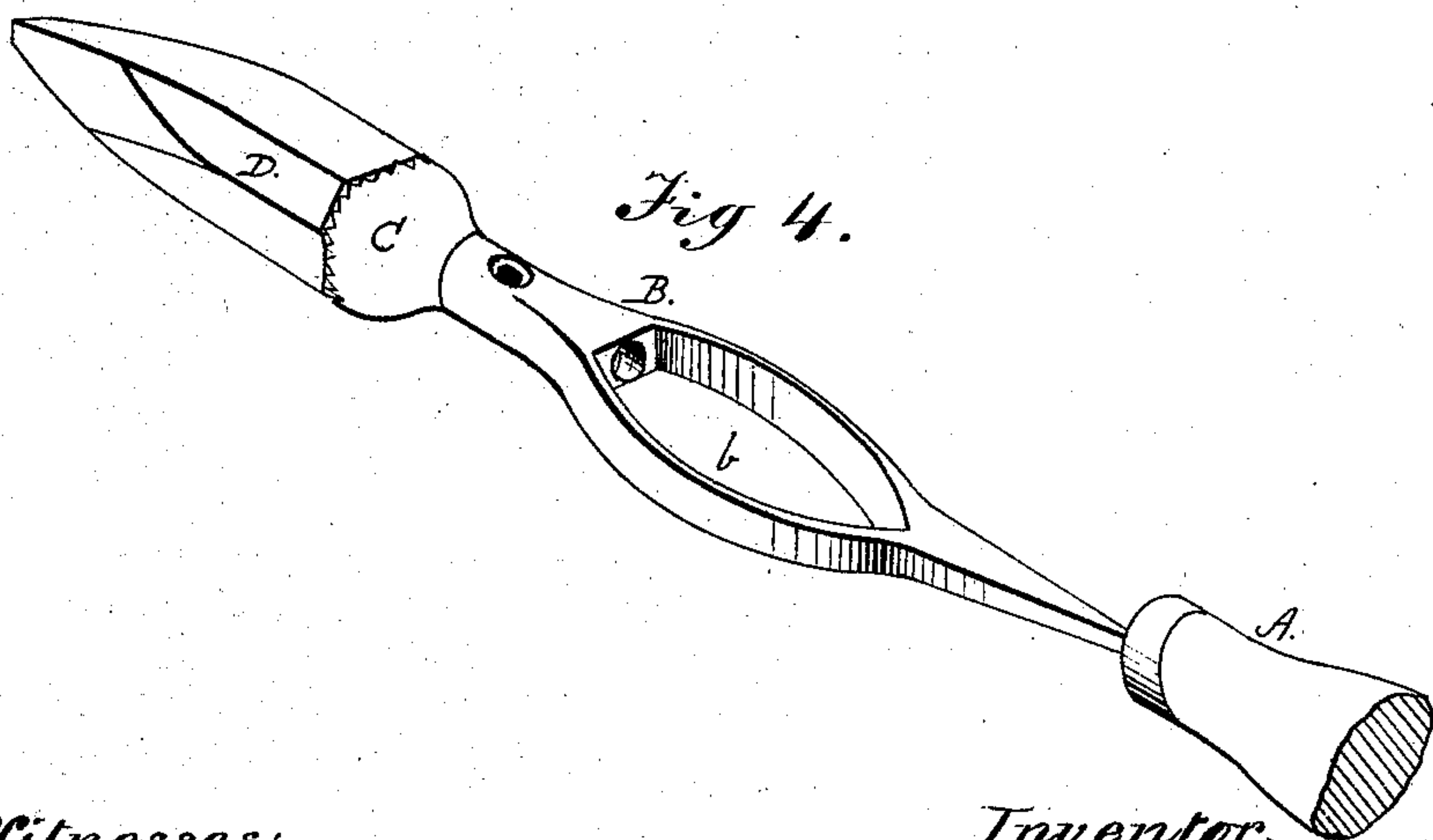
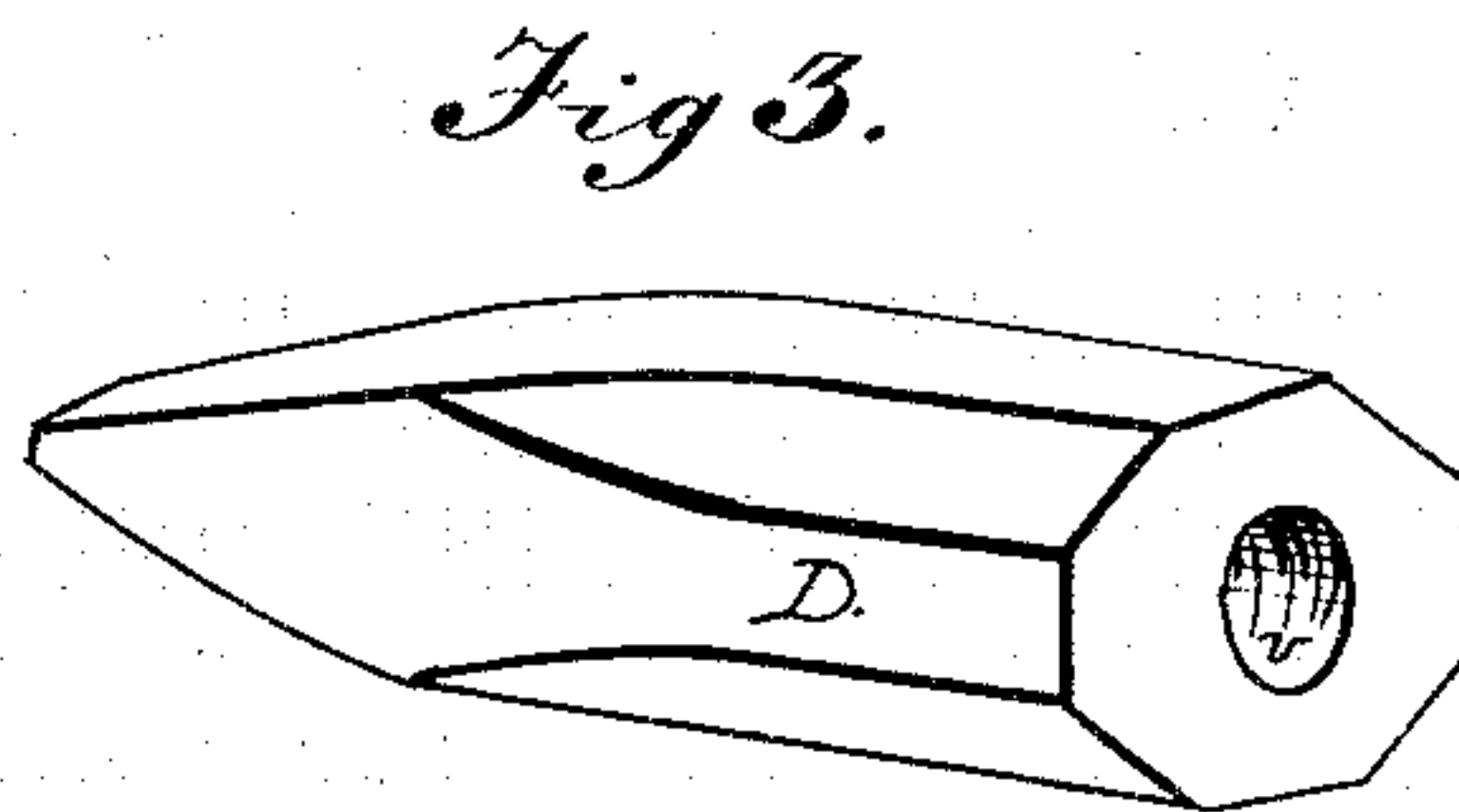
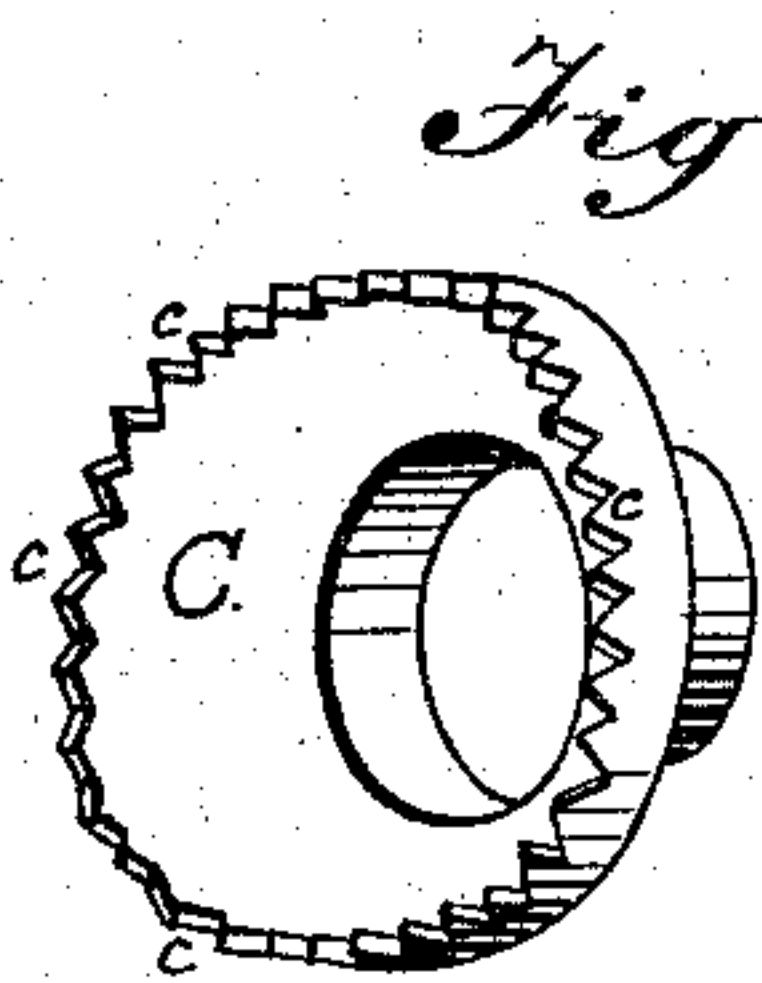
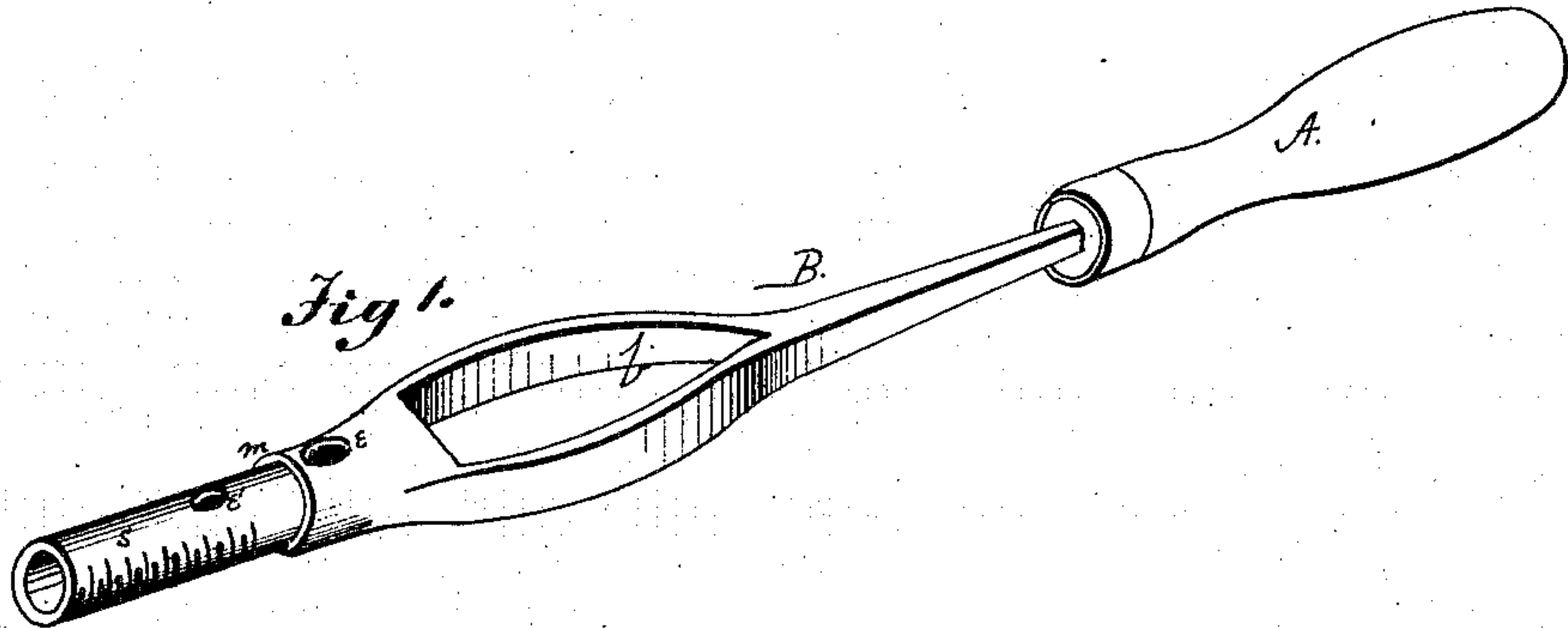


T. HAGERTY.
Soldering-Irons.

No. 154,672.

Patented Sept. 1, 1874.



Witnesses;
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UNITED STATES PATENT OFFICE.

THOMAS HAGERTY, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN SOLDERING-IRONS.

Specification forming part of Letters Patent No. **154,672**, dated September 1, 1874; application filed July 16, 1874.

To all whom it may concern:

Be it known that I, THOMAS HAGERTY, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and Improved Soldering-Iron; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of the handle and shank detached. Fig. 2 is a similar view of the cap which forms the combustion-chamber; Fig. 3, a similar view of the bolt, and Fig. 4 a perspective view of the whole instrument.

Similar letters of reference in the accompanying drawings denote the same parts.

The object of this invention is to improve the construction and operation of gas-heating soldering-irons, so that they may be heated more quickly and economically, and operated more conveniently, than heretofore, and so that, when gas is not at hand, they may be used with the common charcoal-stove, the same as the old-fashioned iron; and to these ends the invention consists in the instrument constructed as I will now proceed to describe.

Such instrument is constructed in three parts, shown, respectively, in Figs. 1, 2, and 3.

The part shown in Fig. 1 consists of a handle, A, preferably of wood, and a shank, B, divided at *b*, and tubular above that point, the end *s* of the tube having a screw-thread around it, and the walls of the tube having two lateral openings, one at *e*, below the shoulder *m*, and one at *e'*, above said shoulder.

The part shown in Fig. 2 consists of a bell-shaped cap, C, which, being inverted, fits down over the screw *s* against the shoulder *m*, so as to rest upon said shoulder. The upper edge of the cap is serrated, as shown at *c c*.

The part shown in Fig. 3 consists of the ordinary copper bolt D, used in soldering-irons, the blunt end thereof being tapped to receive the screw *s*. The cap C is slipped down over the screw-stem, and the latter inserted into the screw-hole *v*, and the parts are then screwed together, as represented in Fig. 4.

The instrument may be used with an ordinary stove; or it may be placed over a gas-burner, the burner fitting up into the lower

end of the tube, in the open space *b*. The gas, then, being turned on, mixes in the tube with air admitted at the opening E, and, thus mixed, passes out of the tube at E', and fills the chamber inside of the cap C, escaping around the entire instrument in contact with the bolt by means of the notches *c c c*. Upon being ignited, the mixture of gas and air burns with great heat around the bolt, the whole body of the latter being enveloped in the flame, and the upward current of heated air thereby created.

The heating of the bolt is thus very rapid, and perfectly uniform, while, as the mixture of gas and air in the tube insures complete combustion, no soot or other impurity is deposited upon it, but it is always clean and in a condition for use.

The end of the gas-burner, the series of openings *c c c*, where combustion takes place, and the hole E, which supplies air for combustion, are brought so near together, and arranged in such position with relation to each other, that the iron may be placed upon a lighted gas-burner, or removed, without extinguishing the gas, the ordinary two-hole gas-burner, such as is commonly used by manufacturers, being employed for the purpose without any change or adaptation whatever.

This construction obviates any necessity for relighting the gas, and adds greatly to the convenience, economy, and utility of the instrument.

Having thus described my invention, I claim—

A soldering-iron having the shank adapted to be hung upon a gas-burner, substantially as shown, having the socket to receive the burner, the point of combustion, and the air-hole for supporting combustion, arranged relatively as shown, and so near to each other that, when in use, the gas will not be extinguished in applying the iron to, or removing it from, the burner, substantially as and for the purposes described.

THOMAS HAGERTY.

Witnesses:

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