C. A. GEFRORER.

Soldering-Tools.

No. 154,037. Patented Aug. 11, 1874.

FIG. 1.

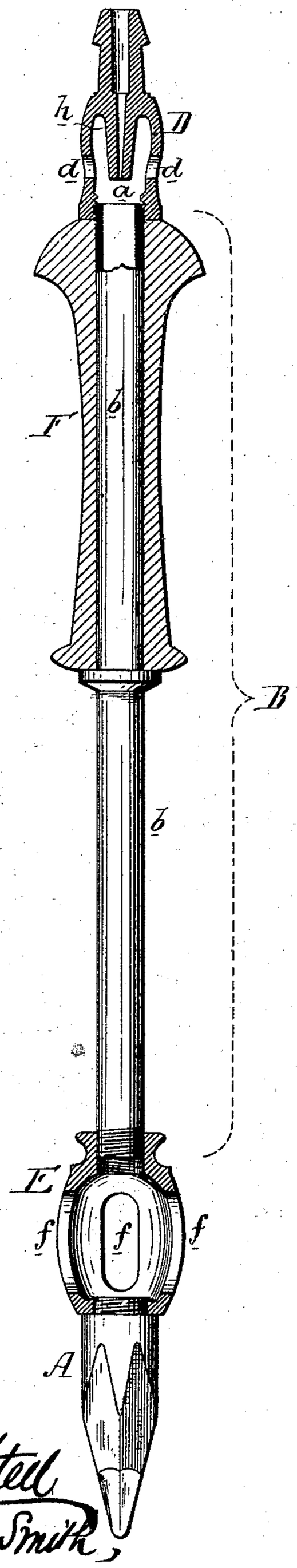
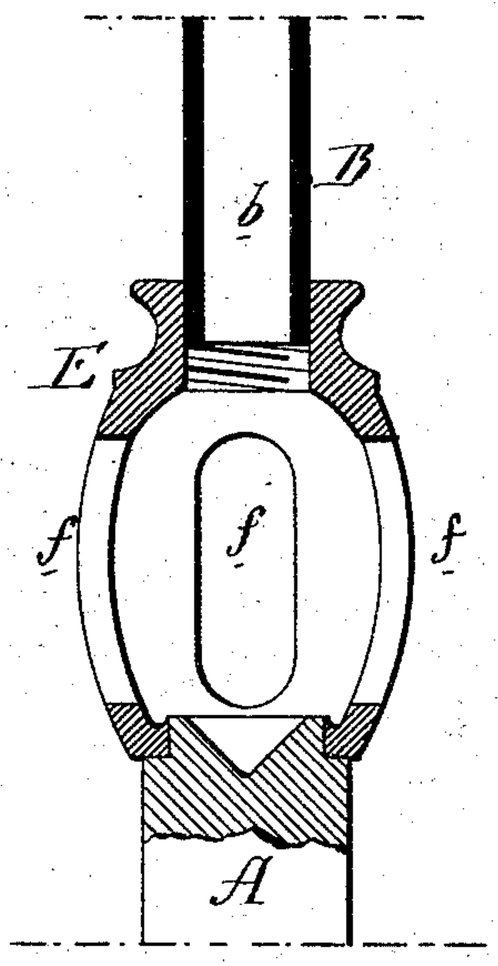


FIG. 2.



Witnesses,
Wm. A. Steel
Harry Smith,

Inventor:
Charles A. Gefrorer
by his attys.
Howson and Son.

UNITED STATES PATENT OFFICE.

CHARLES A. GEFRORER, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN SOLDERING-TOOLS.

Specification forming part of Letters Patent No. **154,037**, dated August 11, 1874; application filed May 14, 1874.

To all whom it may concern:

Be it known that I, CHARLES A. GEFRORER, of Philadelphia, Pennsylvania, have invented an Improved Soldering-Iron, of which the following is a specification:

My invention relates to that class of soldering-irons which are heated by gas, or by a mixture of gas and air; and the object of my invention is to so construct a soldering-iron of this class that an intense heat may be obtained at the expense of a comparatively small amount of gas, owing to the mixing of the latter with a plentiful supply of air.

This object I attain by constructing the soldering-iron in the manner shown in the view, Figure 1, and enlarged sectional view, Fig. 2, of the accompanying drawing, in which—

A represents the head of the iron, and B the stem of the same, consisting of a simple tube, *b*, to one end of which is secured a hollow projection, D, and to the opposite end a casing, E, which serves to connect the stem to the head of the iron, the tube *b* being provided at one end with a suitable handle, F. Ordinary illuminating-gas is conveyed by the usual flexible tube, and through a nozzle, *a*, into the chamber within the projection D, this forcible jet of gas inducing air to rush into the openings *d*, and both air and gas pass together through and are mixed within the tube *b*, so that on arriving at the casing E they will burn within the same at an intense heat. The casing E is provided with a number of large openings, *f*, for the admission of air to promote combustion of the combined air and gas, the flame of which plays directly on the center of the head A of the iron, the latter becoming highly heated by a trifling quantity of gas, owing to a thorough admixture of air with the same.

I claim as my invention—

In a soldering-iron having a tubular stem for conveying gas and air to the head, as described, the nozzle D, arranged at the end of the tool and having gas and air inlet openings *a d*, and serving to confine the handle F to the stem, substantially as described.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

CH. A. GEFRORER.

Witnesses:

WM. A. STEEL,

HARRY SMITH.