

C. A. GEFROERER.
Soldering-Tools.

No. 154,037.

Patented Aug. 11, 1874.

FIG. 1.

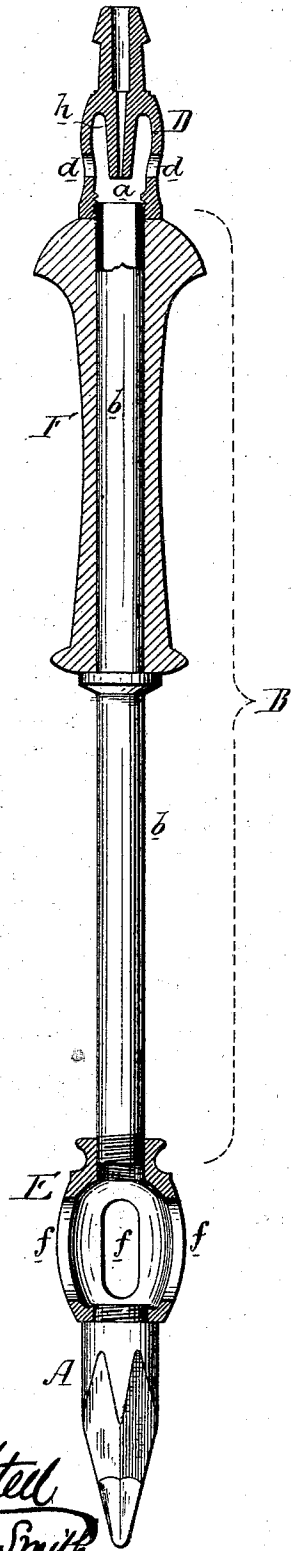
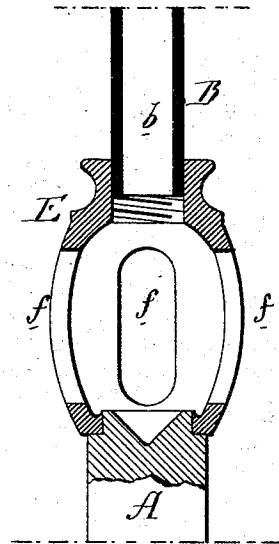


FIG. 2.



Witnesses
Wm. A. Steel
Henry Smith,

Inventor
Charles A. Gefroerer
By his Atty.
Horsman 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.