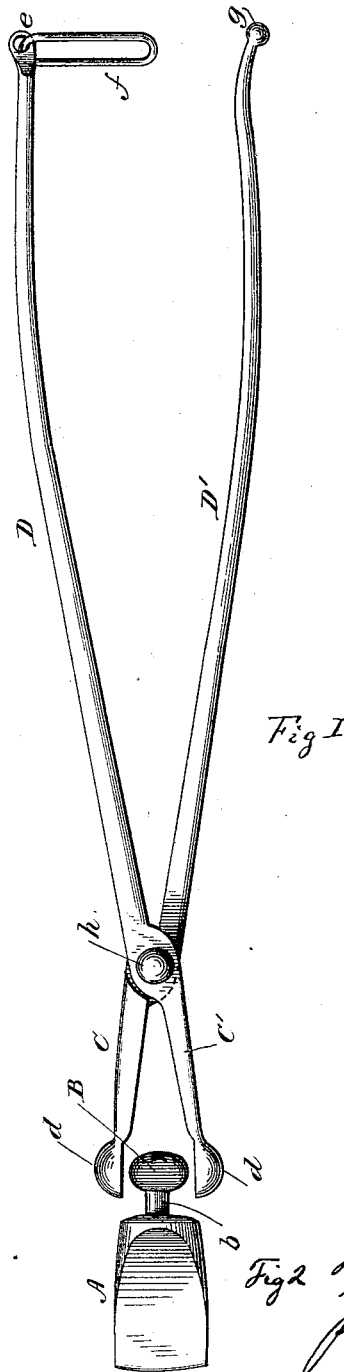


(No Model.)

W. H. FROST.  
SOLDERING TOOL.

No. 344,311.

Patented June 22, 1886.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

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## SOLDERING-TOOL.

SPECIFICATION forming part of Letters Patent No. 344,311, dated June 22, 1886.

Application filed March 26, 1886. Serial No. 196,681. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. FROST, a citizen of the United States, residing at Athol, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Soldering-Tools; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention is an improvement in soldering-tools; and it relates to that class of such tools in which the copper point is detachable from the holding portion.

The copper of my soldering-iron is formed of a short piece of metal provided on one end with a broad flat edge, a narrow point, or any other usual form adapted for the special work to be done. On the opposite end of the copper or point a short stem or neck is provided, terminating with a convex or globe form.

The holding or grasping portion of my soldering-tool is formed of two parts, crossed and jointed after the manner of a pair of tongs. At the ends or short arms of the holding portion of the tool I form concave hemispheres, which correspond with the surface of the globe or convex end of the copper or point. The other arms of the holding portion of the tool are long, and fashioned in a manner suitable to be grasped with facility and comfort by the operator. On one of the said long arms is fastened loosely a holding-link, and on the opposite one a knob is formed, over which the said link is slipped to hold the short arms of the holding portion to a firm grasp upon the globe of the copper or point.

In my drawings forming a part of this specification, Figure 1 is an elevation of the copper or point of the tool. Fig. 2 is an elevation of the holding portion of the tool as in the act of grasping the copper or point.

Similar reference-letters in my drawings and specification indicate like parts.

Referring to the drawings, A is the point of the copper, B is the globe or convex portion

of the same, and *b* is the neck connecting the globe with the point.

CC' are the short arms of the holding portion of the tool, provided with cup-shaped or hollow hemispherical ends *d d'*, formed to grasp and hold upon the globe of the copper or point.

D D' are the long arms of the holding portion of the tool, the former having an eye, *e*, which holds the link *f*, and the latter having its end curved outward, and provided with a knob, *g*, over which the said link is slipped when the short arms are clamped by their concave ends upon the globe of the copper or point.

The parts C D' and C' D are held one with the other by a rivet, *h*, which forms the axis of movement for the holding portion of the tool.

There are several advantages that may be mentioned due to my soldering-tool, and I name them as follows: First, the copper or point being detachable from the holding portion, it is possible for the operator to keep himself constantly at work when provided with several coppers, as one or more may be in the fire while one is being used; second, the holding portion being detachable from the globe of the copper, the portion grasped by the operator remains cool without the necessity for a specially non-heat-conducting hand-hold; third, the globe of the copper and the grasping portion of the holder being in the nature of a ball-and-socket joint, the iron may be turned at any angle necessary, thus enabling the operator to reach points in his work that would be difficult if not impossible to touch with the ordinary tool; fourth, the holding portion being always cool and under the absolute control of the operator, the coppers or points may with the greatest facility be caught up, held firmly to position, and partially or wholly released at will by merely closing or relaxing the grip of the hand, while in other improved soldering-irons it is necessary to release a clamp or to unscrew the handle, either of which it is not easy to do while the copper is heated.

Having thus described my invention, what

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

In a soldering-tool, the pivoted sections D  
D', having cup-shaped jaws *d d'*, and holding-  
5 link *f*, in combination with the copper A,  
provided with a ball, B, substantially as and  
for the purpose set forth.

In testimony whereof I affix my signature in  
presence of two witnesses.

WILLIAM H. FROST.

Witnesses:

ENOCH T. LEWIS,  
WILLARD HAGER.