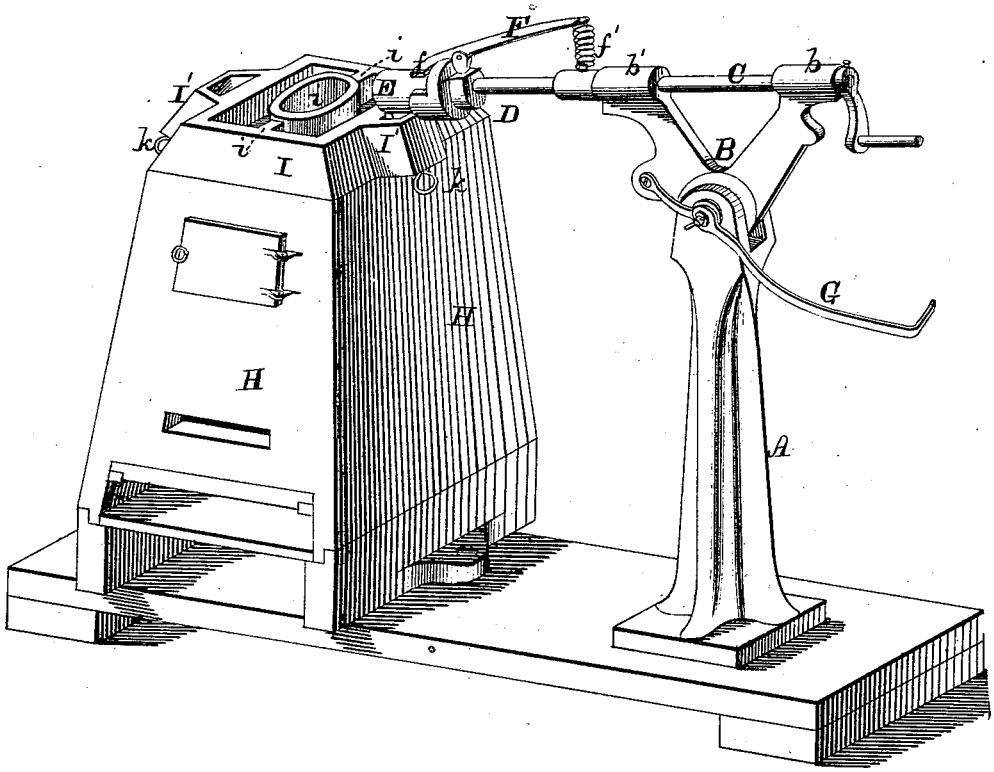
2 Sheets--Sheet 1.

L. P. MERRIAM.

Soldering-Machine.

No. 167,554. Patented Sept. 7, 1875.

Fig. 1.



Witnesses:

Jas. E. Hutchinson

John R. Young

Inventor:

L. P. Merriam, by

Prindle and Co., his Attys

2 Sheets--Sheet 2.

L. P. MERRIAM.

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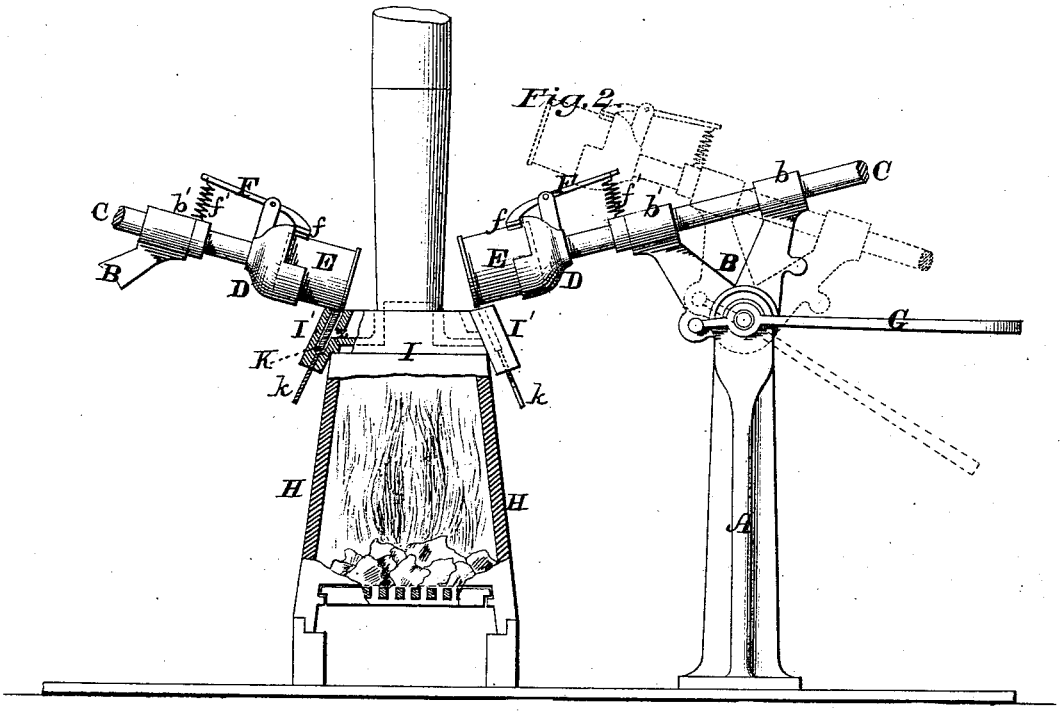
Fig. 2.



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UNITED STATES PATENT OFFICE.

LEVI PARSONS MERRIAM, OF LONDON, ENGLAND.

IMPROVEMENT IN SOLDERING-MACHINES.

Specification forming part of Letters Patent No. **167,554**, dated September 7, 1875; application filed April 2, 1875.

To all whom it may concern:

Be it known that I, LEVI PARSONS MERRIAM, of London, England, have invented certain new and useful Improvements in Soldering-Machines; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings making a part of this specification, in which—

Figure 1 is a perspective view of my apparatus as arranged for use; and Fig. 2 is a side elevation of the same, the furnace and solder-vessel being partially broken away so as to show the construction of their interiors.

Letters of like name and kind refer to like parts in each of the figures.

The design of this invention is to facilitate the soldering of the end joints of tin cans; and it consists, principally, in the means employed for holding in position, and for rotating, the can, substantially as and for the purpose hereinafter specified. It consists, further, in the means employed for turning cans toward or from the solder-vessel, substantially as and for the purpose hereinafter shown. It consists, finally, in the construction of the soldering-iron and its combination with the solder-vessel, substantially as and for the purpose hereinafter shown and described.

In the annexed drawings, A represents a post or standard secured in a vertical position, and having pivoted within its upper end a V-shaped bracket, B, the ends of which are provided with sleeves *b* and *b'*, that form bearings which receive and contain a shaft, C, said shaft being arranged to rotate within said bearings. Upon one end of the shaft C is secured a cup-shaped socket, D, which is provided within its outer end with a recess that corresponds to and receives the end of a round metal can, E. One side of the socket or holder D is cut away, so as to expose its recess at such point, and upon the same side is pivoted a lever, F, that is provided at its forward end with a cross-bar, *f*, which may be turned down and caused to bear upon a can, E, at the point where said holder is cut away. A spring, *f'*, placed between the rear end of said lever and the shaft C, presses the former outward, and causes its forward end to closely gripe said can, and confine the same within said holder.

A lever, G, secured upon one side of the bracket B, and from thence extending rearward, enables said bracket to be turned upon its pivotal bearing, so as to elevate or depress the holder D, for the purpose hereinafter described. At a suitable point in front of the holder D is placed a furnace, H, which has, preferably, a square form in horizontal section, is open at its upper side, and is arranged to burn any desired kind of gaseous or solid fuel. Upon the upper side of the furnace H is placed a tray, I, which, at its center, is provided with an opening, *i*, for the escape of the gaseous products of combustion, and is divided transversely into two compartments by means of a partition, *i'*, that extends from the collar of said opening to the side wall. The sides of the tray I, opposite from and adjacent to the can-holding mechanism, are inclined upward and inward, and upon each is formed a pocket, I', that has its greatest horizontal diameter in a line with said tray side, and communicates with the interior of said tray by means of a horizontal opening, *x*, that extends between the same. Within each pocket I' is placed a correspondingly-shaped piece of copper, K, which loosely fills the space horizontally, and is raised and lowered therein by means of a set-screw, *k*, that passes upward through a threaded opening in the bottom of said pocket. The upper end of the copper piece K is concaved longitudinally, and the furnace arranged so that when a can is secured within its holder, and turned downward to the position shown by the full lines of Fig. 2, the edge of said can, at its forward end, will rest upon or within said concaved end.

The device is now complete, and is operated as follows: Solder is placed within the tray, and, by means of heat within the furnace, is made molten, when it passes into the pockets and fills the space around the copper pieces or soldering-irons. A can is now placed within the holder, the ends of the latter being before placed in position, after which said can is brought into contact with the concaved end of the soldering-iron, and slowly revolved thereon, by which means the molten solder is caused to adhere to and close the joint between the body and head of the can. A similar holder being placed upon the opposite side of the

solder-tray, the two cans may be operated upon at the same time.

The standard should be adjustable vertically, and toward or from the solder-tray, so as to enable cans of different dimensions to be operated upon, for which purpose holders and soldering-irons having corresponding sizes must be provided.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

1. The shaft C, journaled within suitable bearings, the holder D, secured upon the end of said shaft, the lever E *f*, pivoted upon said holder, and the spring *f'*, operating upon the end of said lever, all constructed and combined to operate in the manner and for the purpose substantially as specified.

2. The V-shaped bracket B *b b'*, pivoted within the standard A, carrying the journaled shaft C, and capable of being operated in a vertical plane, in combination with said shaft and the can-holder D, substantially as and for the purpose shown.

3. The soldering-iron K, made concave at its upper end, in combination with the pocket I' and set-screw *k*, substantially as and for the purpose shown and described.

In testimony whereof I hereunto set my hand this 17th day of March, 1875.

LEVI PARSONS MERRIAM.

Witnesses:

WILLIAM CHALLONIS HOLLAND,
96 *Leadenhall street, London.*

L. P. MERREAM.