E. T. Covell,

Soldering Machine.

No. 104,431. Patented June 21. 1870.

Fig. 1.

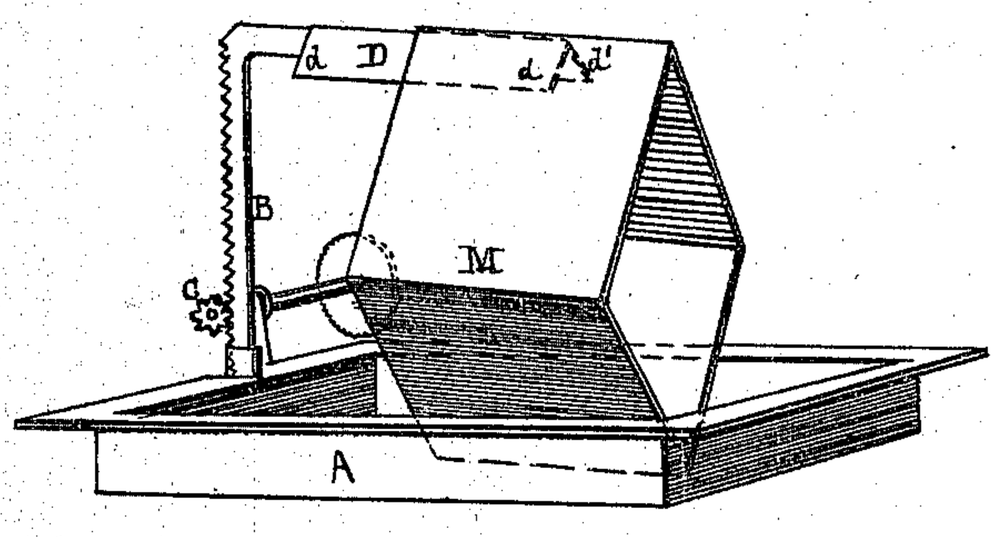


Fig. 2.

Fig. 3.

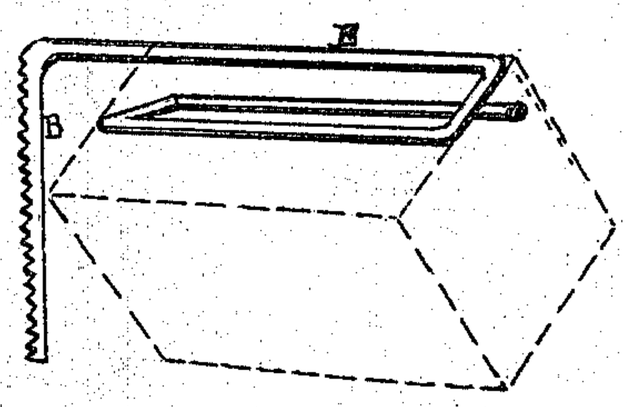


Fig. 4.

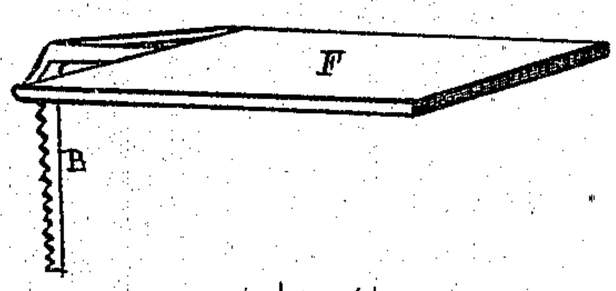


Fig. 5.

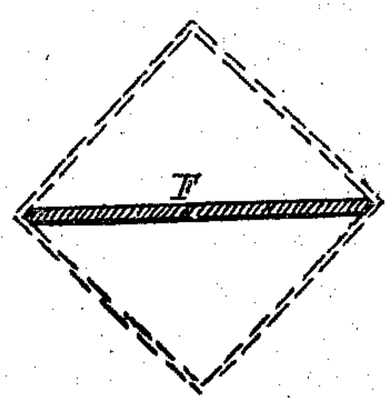
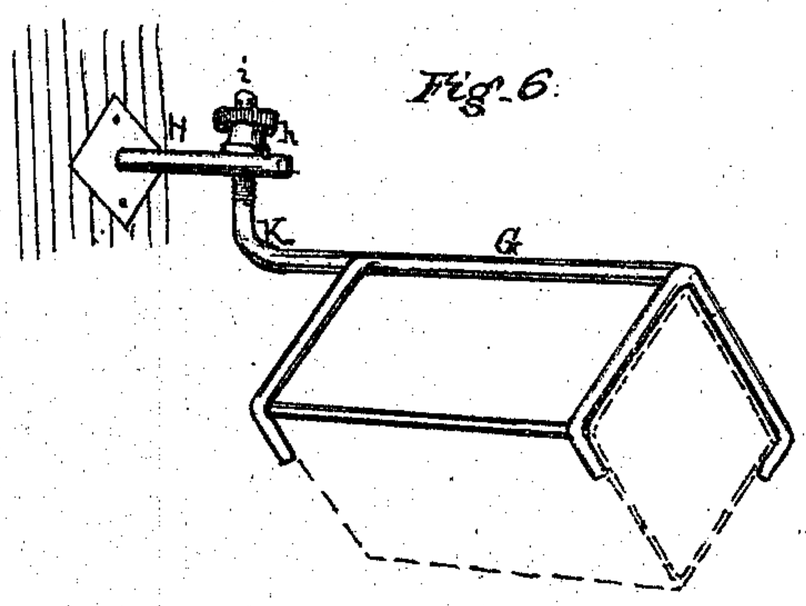


Fig. 6.



Witnesses.
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EDWARD T. COVELL, OF BROOKLYN, NEW YORK.

Letters Patent No. 104,431, *dated June* 21, 1870; *antedated June* 6, 1870.

IMPROVEMENT IN SOLDERING-MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

I, EDWARD T. COVELL, of Brooklyn, in the county of Kings and State of New York, have invented a new and improved Device for Supporting Vessels in a Soldering Apparatus, of which the following is a specification.

My invention relates to an improved method of sustaining metallic vessels in and over a suitable bath of molten-solder, by means of an arm or frame, upheld by or from any suitable support, so as to extend over the solder, and upon or into which the body of the vessel to be dipped is placed, the object of my invention being to provide an improved support for cans or other vessels in the process of soldering their side or corner seams, by dipping the same in molten-solder.

Figure 1 of the accompanying drawings is a view, in perspective, of a soldering apparatus embodying my invention.

Figures 2, 3, 4, 5, and 6 illustrate various modifications in the form of my supporting arm or frame, figs. 3 and 5 being, respectively, end views of the supports, shown in figs. 2 and 4, detached.

A denotes the pan or vessel to contain the molten-solder, and which is to be placed upon any suitable furnace.

B is an adjustable upright standard, passing through a box secured to one side of the solder-pan, or to the stand, frame, or furnace, upon which the solder-pan is supported.

C is a toothed wheel, secured to the solder-pan, or its supporting frame or stand, whose teeth engage with a rack formed on one side of the upright standard, so as to elevate and depress the same by its revolution.

D E F G are different forms of supporting frames, which may be secured to the upper end of the vertical or upright standard B, at right angles thereto, or nearly so, as shown in figs 2 and 4, or to other suitable supports, (see fig. 6.)

D represents a frame, composed of two plates, *d d'*, secured at right angles to each other, or of a single plate, bent to form such an angle. It is so united to the end of the upright B as that its angle shall be uppermost, to fit within the corner of the rectangular vessel M, to be soldered, as represented in the drawing.

E represents a wire rod, secured to the end of the upright B, and so bent as to present a triangular frame, parallel, or nearly so, to the solder-pan, to fit within the angle of the vessel to be soldered.

F represents a flat plate, secured to the upright B parallel to the solder-pan, or nearly so, and which is equal in width to the greater, inner diagonal, or diametric width of the vessel to be supported, as illustrated in fig. 5.

G represents a rectangular wire frame, supported from a bracket, H, over a solder-pan beneath, so as to project in a plane parallel, or nearly so, to that of the pan, with one angle uppermost, and its lower angle and sides cut away, to allow the corner of a rectangular vessel inserted therein to project below the same, as illustrated in the drawing.

By means of the rack and the pinion C, combined with the upright standard B, the frame, or support secured thereto, may be adjusted to any desired height above the level of the molten-solder in the pan A, and a fixed interval between the two be maintained as the solder lowers or is increased in depth.

In using this improved apparatus, the supporting arm or frame is adjusted to the proper height above the solder in the pan, and the open end of the can or other vessel to be soldered, first properly formed, is slipped over and upon said arm or frame, (or, if both ends of the vessel be closed, then into the frame G, fig. 6,) as illustrated by the dotted lines in the several figures of the drawing.

When so placed and suspended upon the support, the lower angle or seam will just dip into the molten-solder and be filled thereby. So soon as this is accomplished the can is removed at an inclination, so as to allow the surplus of solder to flow off and be replaced by another. The supporting arm or frame serves not only to steady and support the can in the solder, but also to regulate the depth of its immersion.

Where a bracket, H, secured to the wall, or to a permanent support at the side of the solder-pan, is used to uphold the supporting frame, the adjustment of the frame may be made by means of a thumb-nut, *h*, working upon a thread cut on the end *i* of the supporting arm K, as illustrated in fig. 6.

I do not regard the mere mode of suspending or upholding the supporting frame or arm as an essential element in my invention. The frames or supports D, E, F, or G, may, therefore, be upheld by other forms of standards or supports than those illustrated by the upright B, fig. 1, or bracket H, fig. 6.

I claim as my invention—

An overhanging support or supporting frame, as hereinbefore described, for suspending the body of a metallic vessel to be soldered, when combined with and projecting over a solder-pan to contain molten-solder, as herein set forth.

In witness whereof I have hereunto set my hand.

Witnesses: E. T. COVELL.

W. H. GARRISON,

I. O. HORTON.