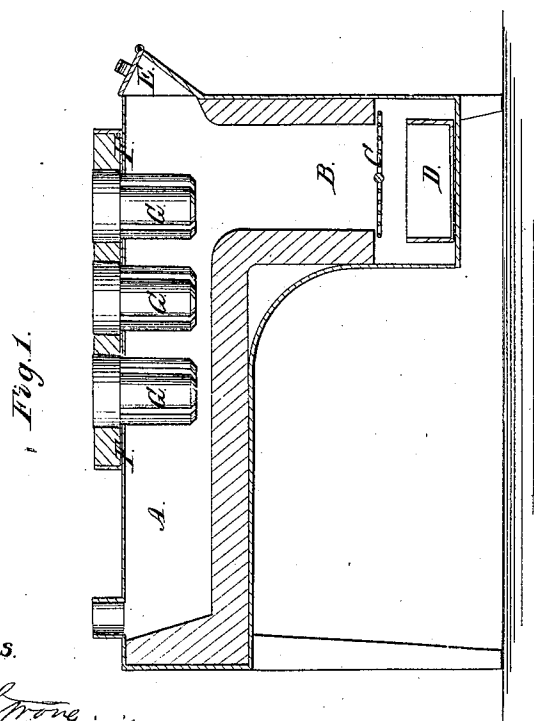
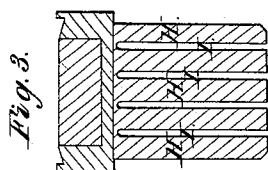
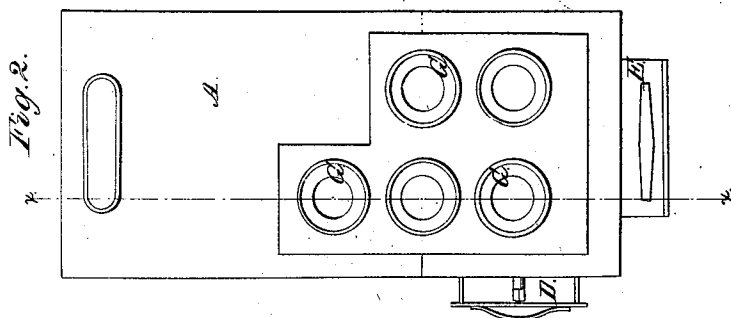


L. Cutting, *Soldering Machine.*

N^o 71,141.

Patented Nov. 19, 1867.



Witnesses.

E. A. Strong.
Carroll Smith

Inventor.

Levi Cutting

United States Patent Office.

LEWIS CUTTING, OF SAN FRANCISCO, CALIFORNIA.

Letters Patent No. 71,141, dated November 19, 1867.

IMPROVEMENT IN FURNACE FOR SOLDERING.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that I, LEWIS CUTTING, of San Francisco, county of San Francisco, State of California, have invented certain new and useful Improvements in Furnaces for Soldering Tin Cans; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvements without further invention or experiment.

The nature of my invention is to provide a furnace for soldering the tops and bottoms of cans so constructed that the heat is only allowed to act on the groove or lap, and not radiate from the furnace into the room upon the workmen. It also relates to the concentration of the heat where it is most needed, as well as to a device for increasing the intensity of the heat, and to the economical use of fuel; also, to the shape of the furnace, enabling the workmen to perform much more labor than by any other furnace now in use.

To more fully illustrate and describe my furnace, reference is had to the accompanying drawings, forming a part of this specification, of which—

Figure 1 is a side sectional elevation, taken through the line *x x*.

Figure 2, a plan or top view.

Figure 3, a sectional elevation of heater.

A represents my furnace, made rectangular in form, a portion being cut away underneath. I consider this the best form for a furnace for the workmen, and more cans can be placed upon it than on a round or oval one. In the front are placed the fire-box B and grate C, with ash-box, D, underneath. For convenience in feeding, an incline opening, E, is made in the front end, which may be covered. I line the interior of my furnace with fire-brick or any fire-proof substance. The top of the furnace is covered with a plate, F, which may be fixed permanently with bolts, or movable by lugs placed under each corner for keeping it in place. This plate is perforated with the desired number of holes for the heaters. The top of the plate, with the exception of the holes, I cover with a non-conducting substance, composed of anything suitable. I have found gypsum or plaster of Paris a good material, but suppose that there are many other substances that will answer the purpose, and may be surrounded by a thin plate to keep it in place. The heaters G G G are made of cast or malleable iron, and are hollow to near the bottom of the plate. Near the top of the heater is a ledge surrounded by a flange. Upon this ledge the top or bottom of the can rests during the process of soldering. The centre of the heater I fill with non-conducting substance similar to that placed on the plate. The flange around the top of the heater above the ledge may be dispensed with, and the edges of the can rest on a flat surface, or the flange may be of plaster of Paris by lowering the heater, as the heat is so intense by this construction of heaters as to render the flange of no great benefit. The lower part of these heaters extends down into the furnace a considerable distance, and is divided vertically into plates H H by transverse slots I I. By this means the heat is utilized and made more intense, and is longer retained without passing up the flue, and no heat is allowed to come in contact with the can except around the outer edges, rendering this process indispensable for the rapid and easy soldering of cans.

The soldering of cans with my furnace is performed in the usual way by placing a coil of solder-wire inside of the can and allowing it to melt and fill the joints. Any workman skilled in the art can accomplish it, or those unskilled in soldering can understand the operation by a few moments' application.

Having thus described my invention, I claim—

A soldering-furnace, having heaters G G, provided with plates H H, for utilizing the heat of the furnace, substantially as described, and in combination with the heaters provided with plates H H.

I claim filling the centre of the heater with gypsum, fire-brick, or some slow conductor of heat.

I also claim, in combination with the heaters G G, the top cover of the furnace, formed of gypsum, fire-brick, or other slow conductor of heat, substantially as described and for the purposes set forth.

In witness whereof I have hereunto set my hand and seal,

LEWIS CUTTING. [L. S.]

Witnesses:

JAMES GREENWOOD,

GEO. H. STRONG.