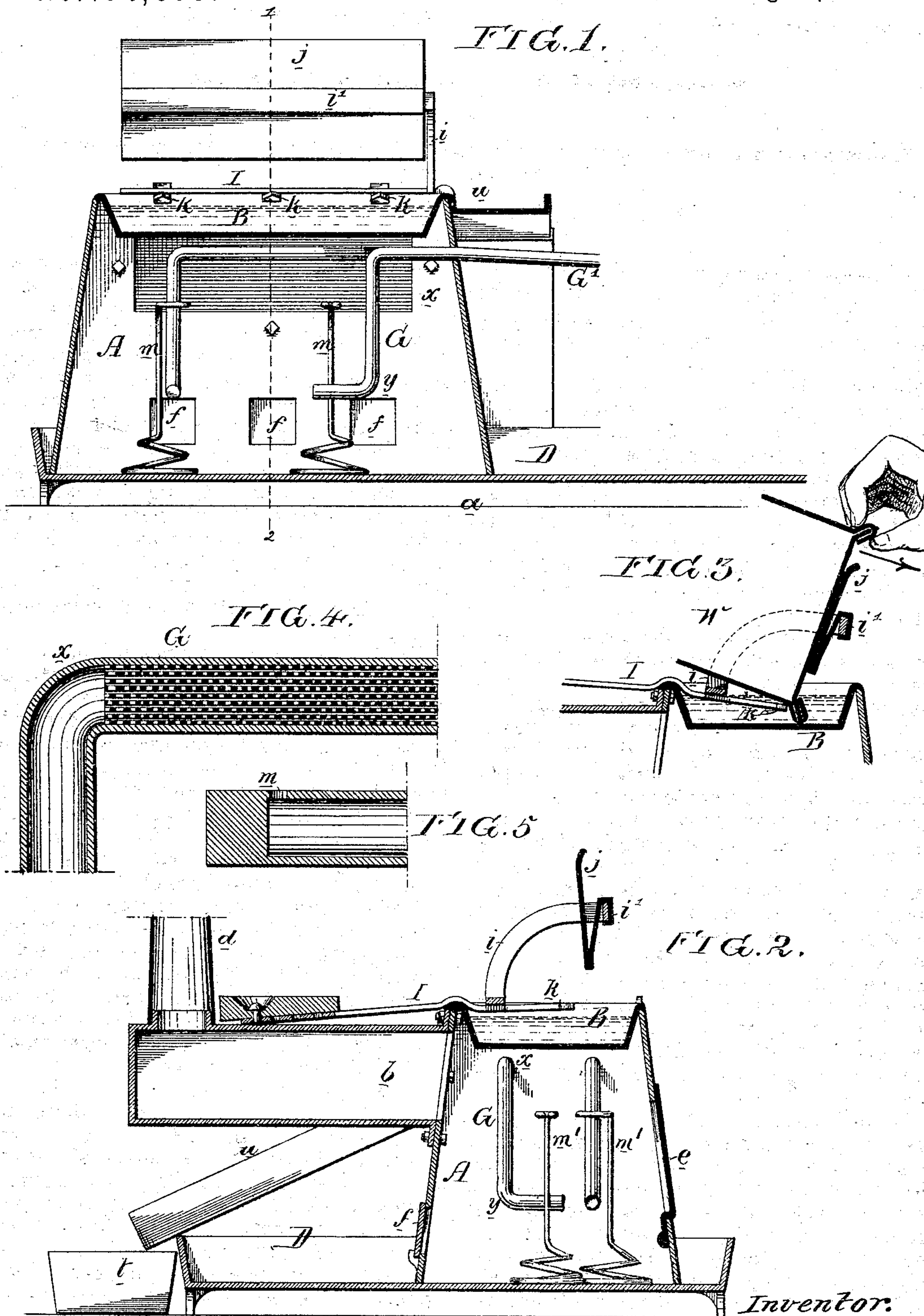


**G. H. PERKINS.**  
**Soldering-Apparatus.**

No. 154,077.

Patented Aug. 11, 1874.



Witnesses, Harry Smith  
Thomas McQuinn

*Inventor.*  
*George H. Perkins*  
*By his Atty.*  
*Howson and Son.*



# UNITED STATES PATENT OFFICE.

GEORGE H. PERKINS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND JOSEPH LE COMTE, OF NEW YORK CITY, AND ATLANTIC REFINING COMPANY, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN SOLDERING APPARATUS.

Specification forming part of Letters Patent No. 154,077, dated August 11, 1874: application filed February 21, 1874.

### CASE H.

*To all whom it may concern:*

Be it known that I, GEORGE H. PERKINS, of Philadelphia, Pennsylvania, have invented an Improved Soldering Apparatus, of which the following is a specification:

My invention relates to apparatus for soldering the joints of cans by dipping the same into molten solder; and the object of my invention is to provide appliances by which the process of soldering is facilitated.

These objects I attain by the apparatus of which Figure 1 in the accompanying drawing is a vertical section; Fig. 2, a transverse vertical section on the line 1 2, Fig. 1; and Figs. 3, 4, and 5, detached views of parts of the apparatus.

A is a cast-iron casing inclosing the burners, and supporting the pan B for containing the molten solder, the casing resting on a cast-iron tray, D, between which and the floor *a* the air can circulate freely. The tray D also serves to catch any benzine which may leak or overflow from the burners or supply-pipes, and thus prevents the saturation of the adjacent wood-work by the benzine, and danger of fire. Attached to one side of the casing A, or forming part of the same, is a chamber, *b*, into which the gases from the burners escape, and from which they are carried off, through an outlet-pipe, *d*, to the external air. In front of the casing there is a door, *e*, on opening which access can be had to the burners, and at the rear are any desired number of openings furnished with doors *f*, by the adjustment of which more or less air can be admitted to the burners for supporting combustion.

In the present instance there are two burners, each consisting of a jointless tube, G, bent at *x*, from which point it is continued downward in a vertical position, and is again bent abruptly at *y*, from which point the pipe extends horizontally to a short distance, its end, which is shown in the enlarged view, Fig. 5, being plugged and welded, and a hole, *m*, being made in the tube a short distance from its closed end, through which hole the benzine escapes in the condition of a flame of intense heat. Further allusion to this burner is unnecessary, as it will form the subject of a separate application for a patent.

Wires *m' m'* (shown in Fig. 2) may be employed for spreading the flames of the burners, but they are not absolutely essential.

On one edge of the pan B, as a fulcrum, rests a frame, I, one end of which is so weighted as to retain the opposite end in the elevated position shown in Fig. 2. The outer end of this frame has an arm, *i*, which carries a cross-bar, *i'*, and to the latter is secured a bent plate, *j*, forming a spring, against which the bottom of a can, W, Fig. 3, is adjusted, one of the sides of the can being against the ends of the bars *k* of the frame I. After the can has thus been adjusted to the frame it is depressed, so that its joint may be dipped into the molten solder, with a result which needs no explanation.

The spring *j* prevents that denting of the can to which the latter would be liable if adjusted to rigid bearings on the frame. The said spring, when the can is held against it by pressure exerted in the direction of the arrow, Fig. 3, also tends to force the joint at the junction of the bottom and side of the can against the bars *k* of the frame, and thus prevents the separation of the folds at the joint which might otherwise occur, owing to the springing of the heated metal.

Molten solder rapidly oxidizes, and it becomes necessary to remove, from time to time, the dross which accumulates on the surface. This dross I throw into a spout, *u*, the upper edge of which adjoins one edge of the pan, the spout guiding the dross into a vessel, *t*, from which it may be removed from time to time, and reconverted into solder.

I claim as my invention—

1. The combination, with the soldering-pan B, of a weighted tilting lever or frame, I, constructed substantially as described, for the reception, retention, and dipping of a can, W, during the soldering of the same, as set forth.

2. The combination described of the spring *j* with the dipping-frame I.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE H. PERKINS.

Witnesses:

WM. A. STEEL,  
HARRY SMITH.