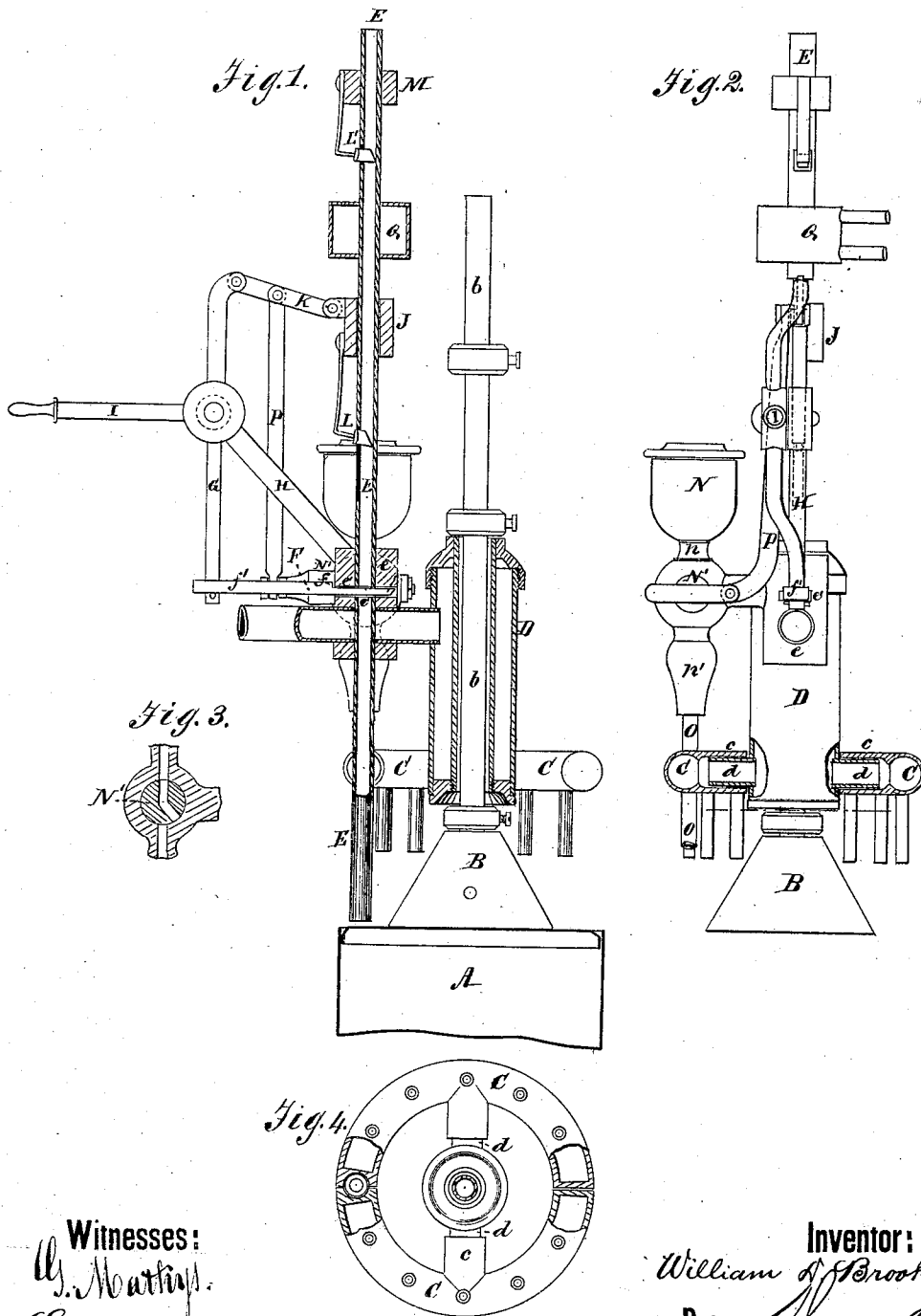


W. D. BROOKS.
Soldering-Machines.

No. 140,679.

Patented July 8, 1873.



Witnesses:
W. Martin
Salomon Remon

Inventor:
William D. Brooks
Per *Wm. D. Brooks*
Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM D. BROOKS, OF BALTIMORE, MARYLAND, ASSIGNOR TO MARY C. BROOKS AND GEORGE D. BROOKS, OF SAME PLACE.

IMPROVEMENT IN SOLDERING-MACHINES.

Specification forming part of Letters Patent No. **140,679**, dated July 8, 1873; application filed May 20, 1873.

To all whom it may concern:

Be it known that I, WILLIAM D. BROOKS, of the city of Baltimore and State of Maryland, have invented a new and Improved Soldering Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is mainly a vertical section. Fig. 2 is a side elevation partly in section and partly broken away. Fig. 3 is a section to show the peculiar construction of the cock in flux-pipe; and Fig. 4 is a plan view of the two-part burner, showing its construction.

The invention relates to machines for soldering the seam between the top and body of can, or between the cap and top. It will first be fully described in connection with all that is necessary to a full understanding thereof, and then clearly pointed out in the claims.

In the drawing, A represents a can in which the top is to be soldered, and B, a holder, provided with lift-tube *b*. C C is a two-part blow-pipe, having each a half-circle of burners and a semicircular burner-tube, C, closed at each end. Their ends are brought and held in proximity to each other, and in connection with the reservoir D, by means of the intermediate coupling-pipes *c d*. The object of this construction is to enable larger or smaller circles of burners to be quickly applied to the same machine when a change is made in the size of can which is to be soldered. E is a long two-part pipe, through which is fed the wire-solder. *e* is a block or enlargement, slotted to receive the sliding horizontal knife F, and the two adjacent ends *e' e'* of pipe. This knife is shouldered at *f*, to limit the extent of its movement, and has a long shank, *f'*, and is connected at the end with a lever, G, that is fulcrumed on the end of an arm, H, provided with a handle, I, and connected with a slide-tube, J, by a metallic strap, K. To the slide J is attached, by an arm, a feeding-pawl, L, that slides a short distance up and down in a slot of the tube E. The extent of this movement corresponds to the length of solder-wire which may be necessary for each can. L' is a detent-pawl, attached by an arm

to a sleeve, M, fixed on tube E, whereby the solder-wire is prevented from any back movement which would interfere with the proper and uniform degree of feed. N is a vessel which holds the resin, oil, or other flux, is attached by an arm to the block, and extends down so as to connect, by a neck, *n*, with a pipe, O, that is bent and thereby brought directly over the seam to be soldered. N' is a cock, placed between vessel N and pipe *n*, and having therethrough a slot that forms an obtuse angle of about one hundred and thirty-five degrees. This slot contains just enough flux for one can and each feed. By turning this cock one-eighth of a revolution, its passage-way is made to connect with the neck *n* that opens into vessel, or the one *n'* that opens into discharge-pipe O. This cock N' is connected with the strap K by an intermediate rod, P, which is pivoted to both.

By this construction of parts the same handle I, and the same single movement in one direction, feeds the resin to the can and advances the soldering-wire, while the reverse motion then cuts off and drops the solder on the previously-dropped flux, and moves the cock to take another supply of the flux.

Q is a water-jacket, fastened around the pipe E, and whose object is to cool the wire, that gradually becomes more or less heated after successive cans have been soldered.

The operation is as follows: The cans are brought up on a carriage-truck or car, so as to be centered by the cap-holder B, that first comes down, and so that the seam which is to be soldered shall come directly under the burners and the pipe E. The can then is revolved and is quickly heated, while the bit of solder that is cut off in tube E falls through the lower end thereof, and rests with one end on the can, being melted gradually as the can revolves.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A circle of burners for a soldering apparatus, having the annular feed-pipe made in two parts, C C, closed at each end, and provided with coupling-pipes *c e*, which adapt them to be fitted speedily on corresponding

pipes *d d* of the reservoir, as described, so that the circle of burners may be readily enlarged or diminished with the increase or decrease in the size of cans.

2. The tube E, knife F, and feed-pawl L, combined in a soldering apparatus, to feed successive bits of soldering-wire, in the manner set forth.

3. The combination, with the lever G, of the shank *f*¹, the slide J, strap K, and the rod P,

attached respectively to knife, feeding-pawl, and cock, to operate them simultaneously, in the manner described.

4. The water-jacket Q, applied about the tube E, as and for the purpose set forth.

WM. D. BROOKS.

Witnesses:

SOLON C. KEMON,
T. D. DURBIN OURAND.