

E. W. KIMBALL.  
Soldering-Iron Heater.

No. 102,555.

Patented May 3, 1870.

FIG. 1

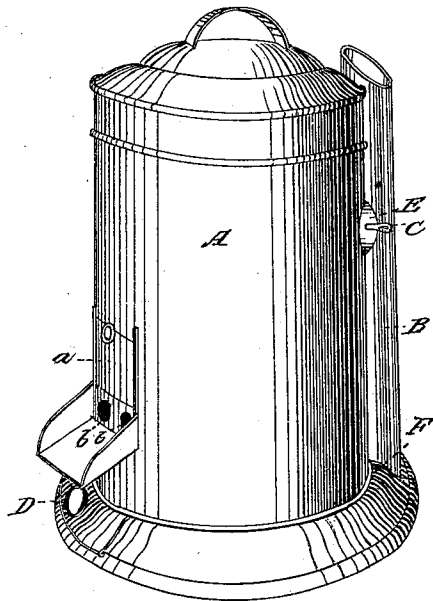
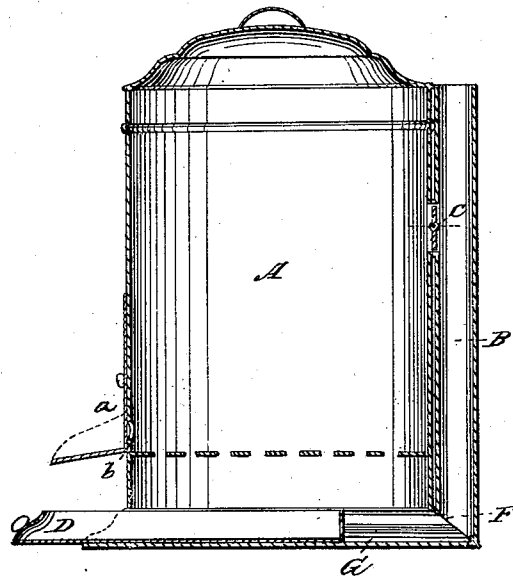


FIG. 2



WITNESSES:

*Sherman Van Ness*

*Alex. S. Rowley*

INVENTOR:

*E. W. Kimball*

# United States Patent Office.

ELIAS W. KIMBALL, OF HUDSON, NEW YORK.

Letters Patent No. 102,555, dated May 3, 1870.

## IMPROVEMENT IN SOLDERING FIRE-POT.

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

I, ELIAS W. KIMBALL, of the city of Hudson, in the county of Columbia and State of New York, have invented certain Improvements in Soldering Fire-Pots, of which the following is a specification.

### *Nature and Objects of the Invention.*

My invention relates to the construction and arrangement of the flues, draughts, and dampers of a soldering fire-pot, whereby the fire is expeditiously kindled, and the draught made to pass either upward or downward through the coal, or wholly beneath the fire, the object being to bring the fire more easily and thoroughly under the operator's control, to regulate the draughts at will, to preserve the fire when not in use with the most economical consumption of coal, and all without complication of construction.

### *Description of the Accompanying Drawings.*

Figure 1 is a perspective view of the exterior of my soldering fire-pot.

Figure 2 is a vertical section of same.

### *General Description.*

The form of my soldering-pot is cylindrical, similar to those now in common use, (see fig. 1.)

A is the cylinder or body of the pot.

B is a perpendicular pipe on the back side, answering the purposes of a draught-flue and smoke-pipe combined.

C is the damper with which the cross-pipe E is provided.

When this damper is open, as in kindling the fire, the slide *a*, which is in front, being raised above the holes *b b*, the draught is direct to the pipe E, and thence up through the smoke or exit-pipe B.

If the damper C be closed, the draught then passes down through the grate into the ash-pan D and pit G, (they being open together,) and thence through the aperture or opening F into the bottom of exit-pipe B. When this is done, the ash-pan D should be in, and its front closed, so as to exclude the air as much as possible. Such will be the directions of the draughts for the most part when the pot is in use, and a good fire required. But when not in use, and it is desirable to preserve the fire for future use, and at the least possible expense, the ash-pan D should be drawn out, so as to allow a free current of cold air to pass through

it into the opening F, and thence into the exit-pipe B, the holes *b b* being now closed by the slide *a*, and the damper C also closed.

When it is desired to start the fire, the slide *a* is raised, and the damper C opened, so that the draught can pass directly through the coal, and upward through E into pipe B. As soon as the fire is kindled and the damper C closed, the draught is diverted, and passes downward through the coal into the ash-pit, and thence through F into the bottom of exit-pipe B. In both these cases the ash-pan D is in its place, and firmly closed.

The work done, and it being desirable to preserve the fire for future use with the least possible consumption of coal, we draw out the ash-pan D, (see fig. 2,) and allow a current of cold air, passing through under the fire into the opening F and bottom of pipe B. The damper C being closed, no draught will pass through the fire in either direction, upward or downward, but the current of cold air, passing through below it, keeps it alive, and with the consumption of less coal than with any other soldering-pot in use. In this, the ash-pan is opened to check the fire, and not to make it burn—a use of it (the pan) directly opposite to that for which it is commonly employed.

I am aware that a back pipe has been used on soldering-pots, but not extending down to and communicating with the ash-pit, so as to be employed in the manner and for the purpose hereinbefore described; nor has such pipe, with opening at bottom below the fire, been used in combination with pipe E and damper C above the fire.

Of course, this use of the ash-pit G as a chamber or flue, or both, implies that it is provided with a bottom below, and inclosing the ash-pan D on all sides, so as to make it a closed flue, for hot air, or an open one, for cold, whenever desired.

I claim as my invention—

The combination of pipe B with cross-pipe E and damper C above the fire, and with opening F, ash-pit or draught-chamber G, and adjustable ash-pan D, below the fire, substantially as and for the purposes hereinbefore set forth.

E. W. KIMBALL.

Witnesses:

SHERMAN VAN NESS,  
ALEX. S. ROWLEY.