M. CONNER.

Soldering-Iron Heater.

No. 109,805. Patented Dec. 6, 1870.

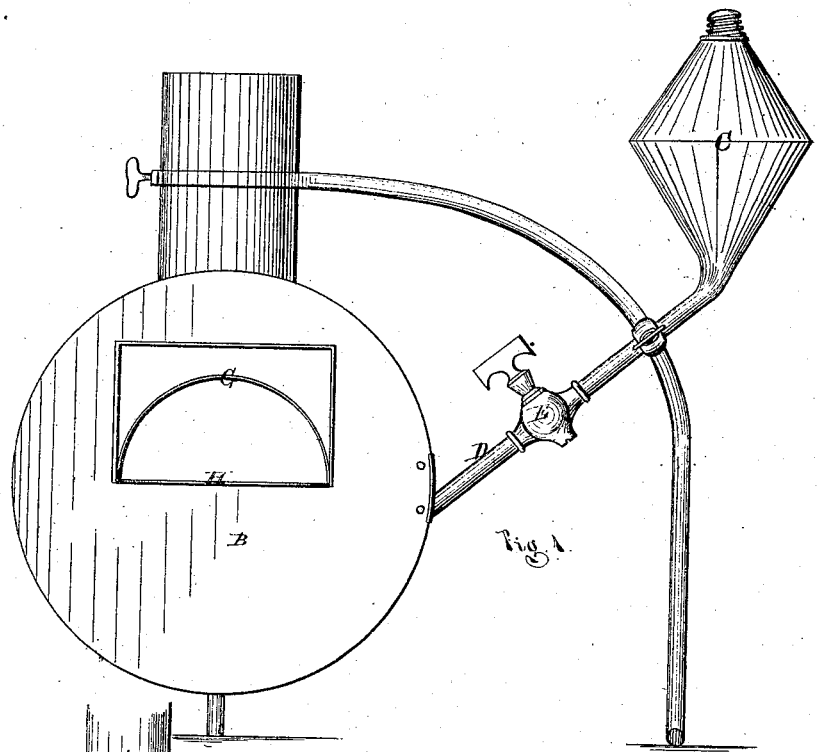

Fig. 1.

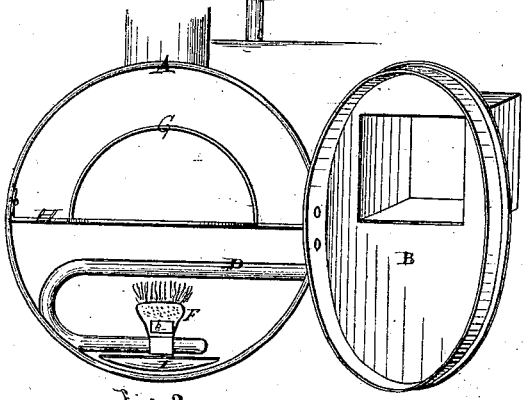

Fig. 2.

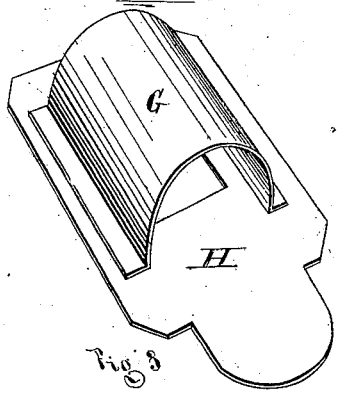

Fig. 3.

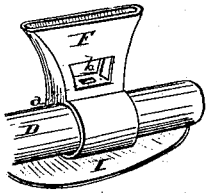

Fig. 4.

ATTEST

Frederick Sheets

S. J. Spray

INVENTOR

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per Attorney

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United States Patent Office.

MICHAEL CONNER, OF PLYMOUTH, MICHIGAN.

Letters Patent No. 109,805, dated December 6, 1870.

IMPROVEMENT IN TINSMITHS' FURNACES.

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

To whom it may concern:

Be it known that I, MICHAEL CONNER, of Plymouth, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in a Tinsmith's Furnace, vapor burning; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon and being a part of this specification, in which—

Figure 1 is a front elevation of the device, with the door closed;

Figure 2 is the same view of the furnace, with the door open;

Figure 3 is a perspective view of the muffle; and

Figure 4 is an enlarged perspective view of the burner.

Like letters indicate like parts in each figure.

The nature of this invention relates to a tinsmith's furnace, vapor burning, wherein the vapors of volatile hydrocarbons are employed to heat the soldering-irons.

It consists in the general construction and arrangement of the various parts, as hereinafter more fully set forth.

In the drawing—

A represents a horizontal sheet-metal cylinder, forming the body of the furnace, provided with a flue or chimney at the top, and a door, B, at the front.

C is a reservoir, for containing naphtha or other light hydrocarbon, from which a pipe, D, provided with a stop-cock, E, extends to and enters the side of the furnace about midway of its length, extending horizontally across its interior, below its greatest diameter, turning down and back, toward the center, terminating in a burner, F, as shown.

G is a muffle, open at the ends, and secured to a plate, H, provided with an opening within the muffle. This plate is inserted in the furnace at or about the center, while its opening will be directly over the burner. Its front part projects through the door, forming a hearth to sustain the irons while being heated. The opening in the door is also provided with a hood, as shown.

The horizontal portion of the pipe is packed with cotton, wire, or other suitable material, to prevent a too rapid flow of the fluid, and to prevent burning back.

The peculiar shape of the burner is fully shown in fig. 4.

Above the orifice *a* it resembles a flattened bell-mouth, provided with openings *b* at the sides, which admit air to the interior of the burner, promoting and supporting the combustion of the vapor The peculiar shape of the burner expands the flame like an open fan, and as it rises it surrounds the horizontal portion of the pipe, converting the fluid therein into vapor; passing up through the opening in the plate H, the muffle confines the heat to the soldering-irons, resting on the plate with their points over the opening.

The facility with which the irons may be heated in this furnace, the low cost of heating them as compared with the charcoal furnace, in which the consumption of fuel proceeds all day, whether the irons are needed all the time or not, and the small cost of construction, will readily be perceived.

To facilitate the generation of the vapor in lighting up the burner, underneath it I place a small cup, I, in which may be placed a small quantity of the hydrocarbon and ignited, after the pipe has been filled and the supply shut off. The flame will soon volatilize the fluid in the pipe below the stop-cock, which may then be opened, and combustion proceeds in the manner described.

What I claim as my invention, and desire to secure by Letters Patent, is—

The construction of a tinsmith's furnace, vapor burning, wherein the cylinder A, door B, reservoir C, pipe D, stop-cock E, burner F, muffle G, and supporting plate H, are arranged and operate in the manner and for the purpose set forth.

MICHAEL CONNER.

Witnesses:

FREDERICK EBERTS,

S. J. SPRAY.