

(No Model.)

W. C. NORTH.

OIL VAPOR BURNING SOLDERING FURNACE.

No. 303,316.

Patented Aug. 12, 1884.

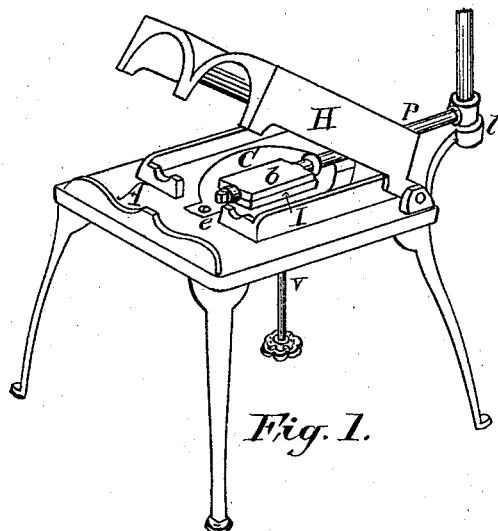


Fig. 1.

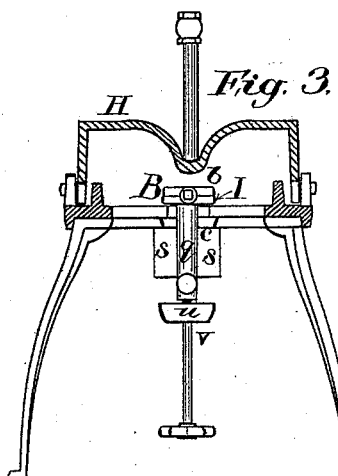


Fig. 3.

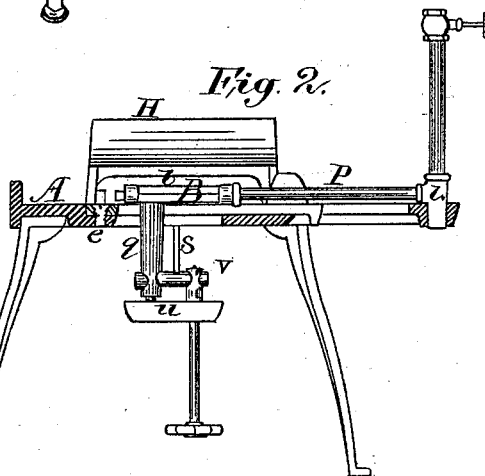


Fig. 2.

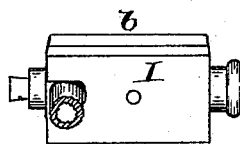


Fig. 5.

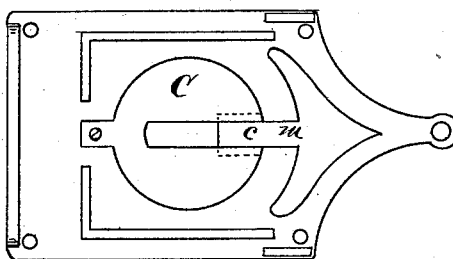


Fig. 4.

Witnesses,  
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# UNITED STATES PATENT OFFICE.

WILLIAM C. NORTH, OF CLEVELAND, OHIO.

## OIL-VAPOR-BURNING SOLDERING-FURNACE.

SPECIFICATION forming part of Letters Patent No. 303,316, dated August 12, 1884.

Application filed November 2, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM C. NORTH, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Oil-Vapor-Burning Soldering-Furnaces, of which the following is a specification.

These improvements relate to the peculiar construction and arrangement of the burner and the adjacent parts of the furnace, as hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of a soldering-furnace embodying my improvements. Fig. 2 is a vertical section, and Fig. 3 is a cross-section, of same. Fig. 4 is a top or plan view of table of furnace. Fig. 5 is an under side view of part of the burner, showing protector.

A is the table of a soldering-iron-heating furnace supported by legs at the four corners. Heretofore these tables have had an open center surrounding the burner, which caused a considerable waste of heat, and heated the lower parts of the burner and valve-stem, and the flames were unsteady from interference by currents of air from outside. My improvements entirely overcome these defects and produce an intensely - hot blue flame, uniform and rapid in effect.

The burner B consists of vapor-generator *b*, attached to the supply-pipe P at rear of table, and provided with vapor-pipe *g*, having needle-valve *v* and cup *u*. The pipe P at the angle is secured to the table-extension by a tenon on the elbow *l*, fitted into a mortise in the extension and held by a set-screw. A plate, C, is fitted to fill the opening in the table, and lies just beneath said generator. It has a slot, *c*, opening from rear side, so that it may be slipped into place from the front, and has an ear, *e*, through which a screw is placed to hold it in place. Said slot *c* is enlarged at the center, and forms an opening, through which the vapor passes to strike the under side of the generator, and here is where

the vapor is burned, the flames from which are spread and issue at each side of said generator, between it and the plate C. The soldering coppers or irons lie on each side of said generator and are heated by said flames. The plate C is supported at the rear side by an arm, *m*, on the table, and this partly closes the slot. The burner is covered by a hinged hood, H.

To protect the generator from the intense heat, which in a short time renders the metal of which it is composed very brittle and liable to break, I provide a protecting-plate of iron, I, to the under side, secured by means of a screw or rivet.

A shield, *s*, is made on the vapor-pipe *g*, standing between the orifice and the pipe, for the purpose of directing the flame which strikes against said pipe down its side, and prevents its interference with the stream of vapor issuing from the orifice.

The back wall of the hood has an opening, *h*, through which the pipe P passes, which is somewhat larger than the pipe. This allows flame to issue and extend along said pipe for heating it and assist in the generation of vapor. With this construction I am able to produce a perfectly blue flame from coal-oil, with an intense heat well adapted for the purpose required.

Having described my invention, I claim—

1. In a vapor-burning soldering-furnace, the removable plate C, provided with central opening, *c*, in combination with table A and burner B, substantially as shown and described.

2. The combination of the shield *s*, the vapor-pipe *g*, and the generator *b*, the said shield being parallel to the pipe, as and for the purpose specified.

WILLIAM C. NORTH.

Witnesses:

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