P. COOK & J. G. JONES.

FURNACE FOR HEATING SOLDERING IRONS.

No. 188,858. Patented March 27, 1877.

FIG. I.

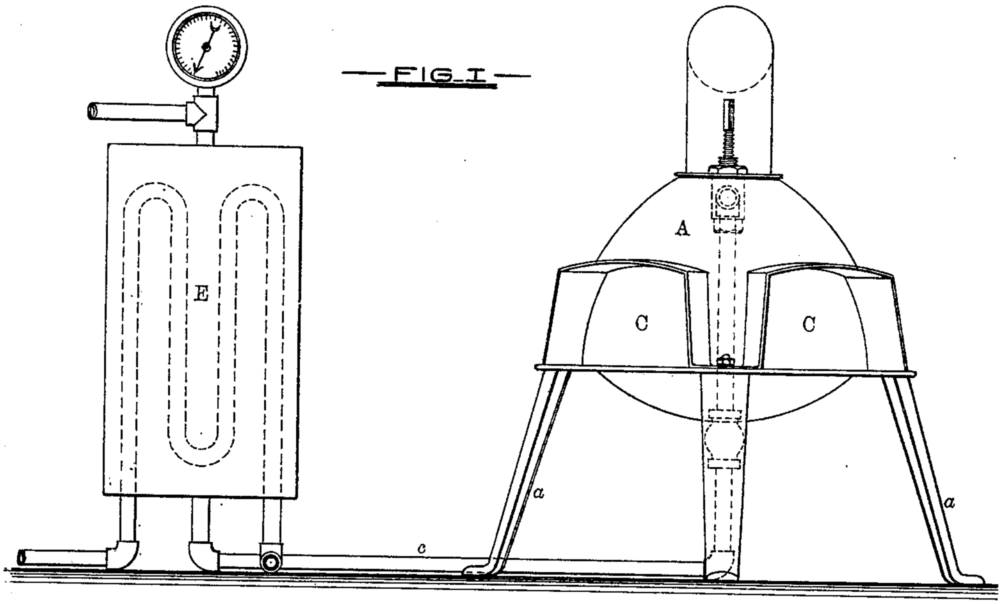

FIG. II.

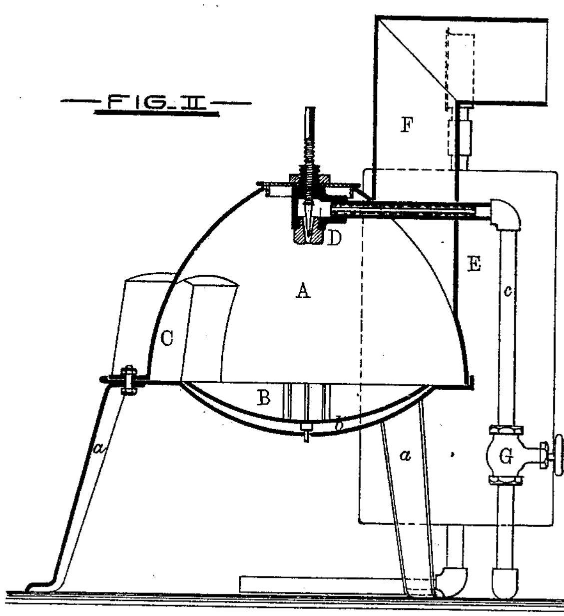

FIG. III.

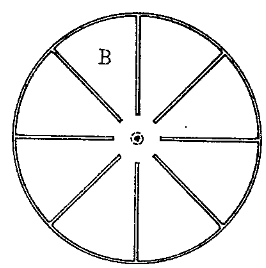

FIG. IV.

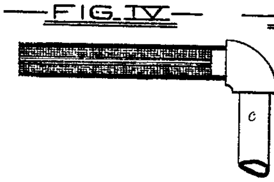

FIG. V.

WITNESSES.

Wm. W. Towson

R. H. Whittlesey

INVENTORS.

Peter Cook,

Jacob G. Jones,

by G. H. & W. T. Howard

Atty.

UNITED STATES PATENT OFFICE.

PORTER COOK AND JACOB G. JONES, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN FURNACES FOR HEATING SOLDERING-IRONS.

Specification forming part of Letters Patent No. **188,858**, dated March 27, 1877; application filed December 8, 1876.

To all whom it may concern:

Be it known that we, PORTER COOK and JACOB G. JONES, both of the city of Baltimore and State of Maryland, have invented certain Improvements in Furnaces for Heating Soldering-Irons, of which the following is a specification; and we do hereby declare that in the same is contained a full, clear, and exact description of our said invention, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

This invention relates to a furnace for the above-named purpose in which the soldering-irons are heated by a flame of hydrocarbon vapor, introduced at the upper part thereof through the medium of a suitable burner and a supply-pipe of novel construction, and in which the flame from the burner is deflected, and its effectiveness thereby increased, by the interposition of a removable grated or ribbed false bottom, upon which the soldering-irons to be heated are placed.

In the description of our invention which follows, reference is made to the accompanying drawing, forming a part of this specification, and in which—

Figure 1 is an exterior elevation of our improved furnace, connected by a supply-pipe to a tank or reservoir of hydrocarbon fluid. Fig. 2 is a vertical section of the same; and Figs. 3, 4, and 5 are sectional views of parts of the invention.

Similar letters of reference indicate similar parts in all the figures.

A is the shell of the furnace, substantially hemispherical in form, and supported upon the legs *a*. B is a removable false bottom, having a ribbed or grated upper surface, upon which the soldering-irons are placed to be heated. An air-space, *b*, between the false bottom B and the bottom of the furnace, prevents the overheating of the latter. The false bottom is removable, to allow of its replacement by another, when warped or otherwise rendered unfit for use. The furnace is provided with openings C, through which the soldering-irons are introduced to the false bottom B. D is the burner, located at the upper part of the furnace, and connected to the fluid tank or reservoir E by the supply-pipe *c*. In order to vaporize the fluid in the pipe *c* before it reaches the burner D, a portion of the said pipe is subjected to heat from the furnace, and, preferably, by extending the pipe through the draft pipe or flue F, as is shown in the drawing. The part of the pipe *c* exposed to heat from the furnace is packed with wire-cloth wrapped around a central metallic core, or with some fibrous material not easily injured by heat. The office of this fire-proof fibrous or porous packing is to increase the vaporizing-surface in contact with the fluid, to retard the flow of the said fluid to the burner, and to prevent particles of ash or hard carbon from clogging the same.

The flow of the fluid from the tank is controlled by means of a stop valve or cock, G, located in the pipe *c*, between the tank and the part of the pipe containing the metallic or fibrous packing.

The fluid in the tank or reservoir E is forced to the burner by pressure generated therein, which tension or pressure may be obtained in various ways: An atmospheric or hydrostatic pressure may be obtained by means of a pump; a gaseous tension by the agitation of the fluid, by the direct application of heat to the tank, or by the introduction to the tank of a gang or coil of steam-pipe, as is shown in the drawing. The pressure maintained in the tank is such as will cause the flame from the burner to strike the removable false bottom, and, being deflected, to practically fill the furnace with ignited gas, the heated products of combustion passing off through the draft-flue F. By this means a nearly uniform temperature is obtained in all parts of the furnace, which admits of the heating of a number of soldering-irons placed in the furnace without respect to position or reference to the gas-flame.

The false bottom B, being maintained at a red heat by the action of the flame, assists materially in the heating of the soldering-irons placed thereon, and, by having the ribbed or grated upper surface, allows the flame to pass underneath and around the said irons, whereby the efficiency of the said flame is greatly increased.

Having thus described our invention, what we claim as new, and wish to secure by Letters Patent of the United States, is—

1. In a furnace for heating soldering-irons, a removable false bottom for deflecting the flame issuing from the burner, combined with the shell of the furnace, substantially as and for the purposes specified.

2. In a furnace for heating soldering-irons, a removable deflecting false bottom, combined with a burner inclosed within the furnace-shell, and placed over the said false bottom, substantially as and for the purposes specified.

3. In a furnace for heating soldering-irons, the combination of a furnace-shell, a hydrocarbon-reservoir, and a pipe conducting the fluid therefrom to the burner, the said pipe being arranged to pass through the draft-flue, and be heated by the indirect action of the products of combustion, substantially as and for the purposes herein set forth.

In testimony whereof we have hereunto subscribed our names this 21st day of November, in the year of our Lord 1876.

PORTER COOK.
JACOB G. JONES.

Witnesses:
WM. T. HOWARD,
THOS. MURDOCH.