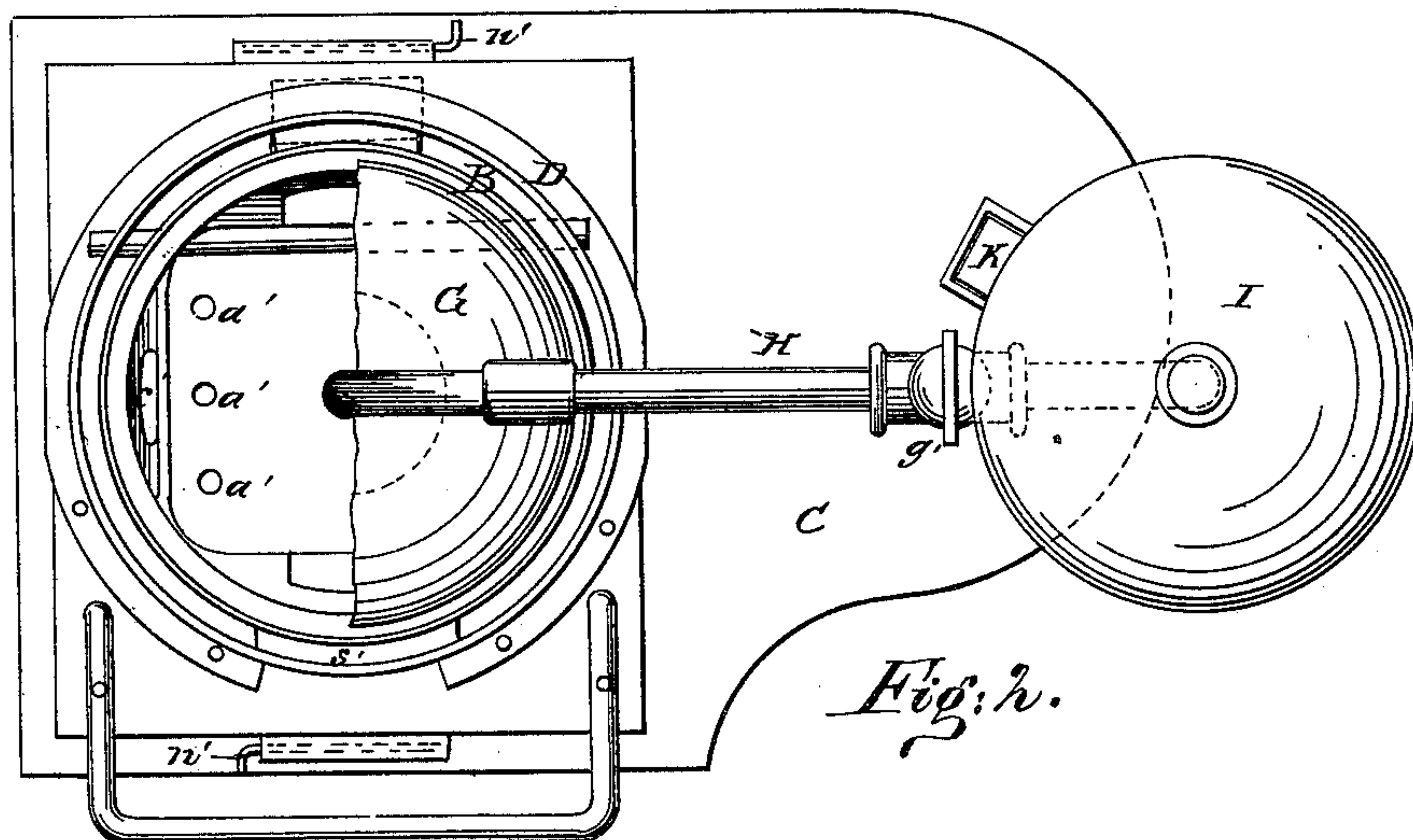
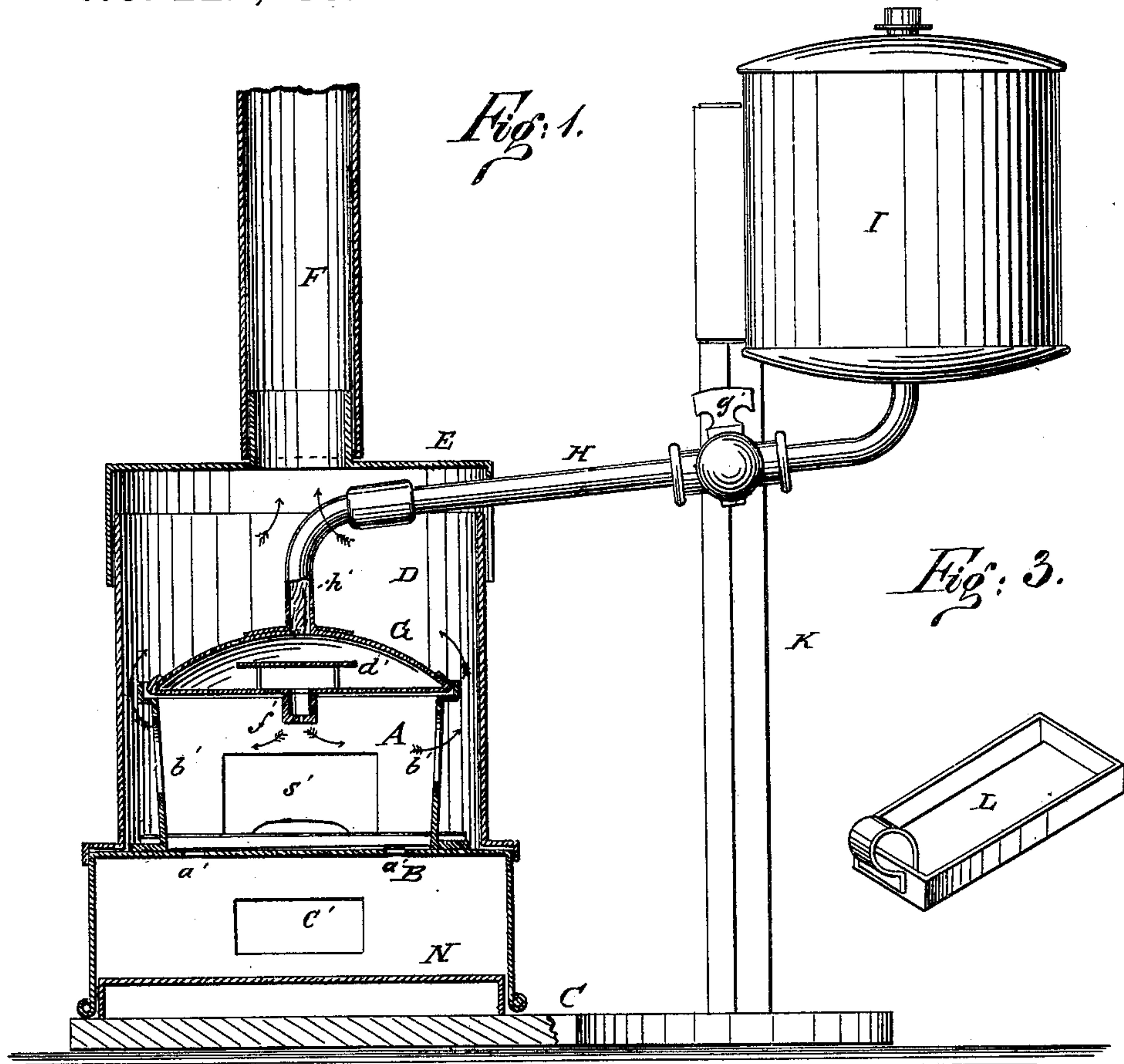


J. T. BROWN.  
Fire-Pot for Soldering-Iron Heater.  
No. 222,237.      Patented Dec. 2, 1879.



WITNESSES:

*Chas. Nida*  
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# UNITED STATES PATENT OFFICE

JAMES T. BROWN, OF SARANAC, MICHIGAN.

## IMPROVEMENT IN FIRE-POTS FOR SOLDERING-IRON HEATERS.

Specification forming part of Letters Patent No. 222,237, dated December 2, 1879; application filed August 29, 1879.

*To all whom it may concern:*

Be it known that I, JAMES T. BROWN, of Saranac, in the county of Ionia and State of Michigan, have invented a new and Improved Fire-Pot for Heating Soldering-Irons, of which the following is a specification.

Figure 1 is a front elevation of the device, partly in section. Fig. 2 is a plan of the same, partly in section. Fig. 3 is a perspective view of the fire-pan.

Similar letters of reference indicate corresponding parts.

The object of this invention is to provide a fire-pot for heating soldering-irons, shoe-makers' burnishers, branding-irons, and the like, in a cheap and expeditious manner.

The invention is more especially designed, however, for soldering-irons; and it consists of a cylindrical metallic vessel or combustion-chamber with a perforated bottom and side openings fixed centrally within a larger cylinder that is provided with a movable cover and smoke-pipe; and it further consists of a circular shallow vessel, called a "generator," that is set in the top of the interior cylinder, and supplied with oil or gasoline, or other liquid hydrocarbon, through a pipe connecting with an elevated reservoir.

In the drawings, A represents a cylindrical metallic vessel or combustion-chamber, provided with side apertures, *b' b'*, and set upon a base, B, through which are openings *a' a'*, for the admission of air, and which itself rests upon a platform, C. Fixed over and around this cylinder A is the larger cylinder D, provided with a movable cover, E, that carries a smoke-pipe, F.

Fitting within the flanged top of the inner cylinder, A, is the generator G, which is a shallow circular vessel, in which is a horizontal diaphragm, *d'*, supported on rods projecting upward from the flat bottom of the generator. A short tube, *f'*, closed at its lower end, but provided with a minute orifice, projects centrally downward from the flat bottom of the generator, and from its convex upper surface the pipe H, provided with cock *g'*, connects with the hydrocarbon-reservoir I, that is supported on a standard, K. The lower part of this pipe H is fitted with a wick, *h'*.

To operate the device a small quantity of oil is put in the pan L, which is then placed within the smaller cylinder, A, through the front opening, *s'*, and set on fire. The cock *g'* is then turned to permit a small quantity of the hydrocarbon to flow into the generator G upon the diaphragm *d'*, when the heat from the burning oil in the pan quickly converts this liquid hydrocarbon in the generator G into gas, which forces its way out through the minute opening in the end of the tube *f'* and takes fire, and the flame and smoke therefrom tend downward to the side apertures, *b' b'*, and thence upward to the smoke-pipe.

Sufficient air for complete combustion is supplied through the perforations *a' a'* and the openings *c'*, which latter may be opened or closed with slides or doors *n' n'*, to regulate the admission of the air. The diaphragm *d'* serves to spread the oil supplied to the generator G, so that it (the oil) may present a maximum of evaporation-surface.

The wick *h'*, by filling the tube's diameter, assists in regulating the flow of the oil, and to make the apparatus secure against explosion. As soon as gas is generated and is burning, the pan L is withdrawn, and the soldering or other irons to be heated are thrust into the fire-pot A through the front opening, *s'*, their handles resting on the rod M. It is found in practice that the smoke from the burning gas or oil is so directly carried off through the side openings in the fire-pot, as shown by the arrows in Fig. 1, that it does not come at all in contact with the points of the irons, which quickly heat and keep bright and clean.

To prevent the heat from burning the platform C, a shield, N, is placed between it and the bottom of the fire-pot A.

It is found that great economies in time and in cost of fuel are secured by the use of this device, and that it can be used and manipulated with perfect success by any workman.

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

1. The combination of the cylindrical vessel A, resting on a base, B, cylindrical vessel D, provided with movable cover E and smoke-pipe F, generator G, provided with diaphragm

$d'$  and tube  $f'$ , pipe H, reservoir I, and stand-  
ard K, constructed and arranged substantially  
as herein shown and described.

2. The generator G, having diaphragm  $d'$ ,  
tube  $f'$ , and connection by pipe H with oil-  
reservoir I, in combination with the cylinder  
A, having apertures  $b' b'$ , the base B, having

openings  $a' a'$ , and the cylinder D, having  
cover E and pipe F, as and for the purpose  
specified.

JAMES T. BROWN.

Witnesses:

L. H. ENGLAND,

CHARLES BROWN.