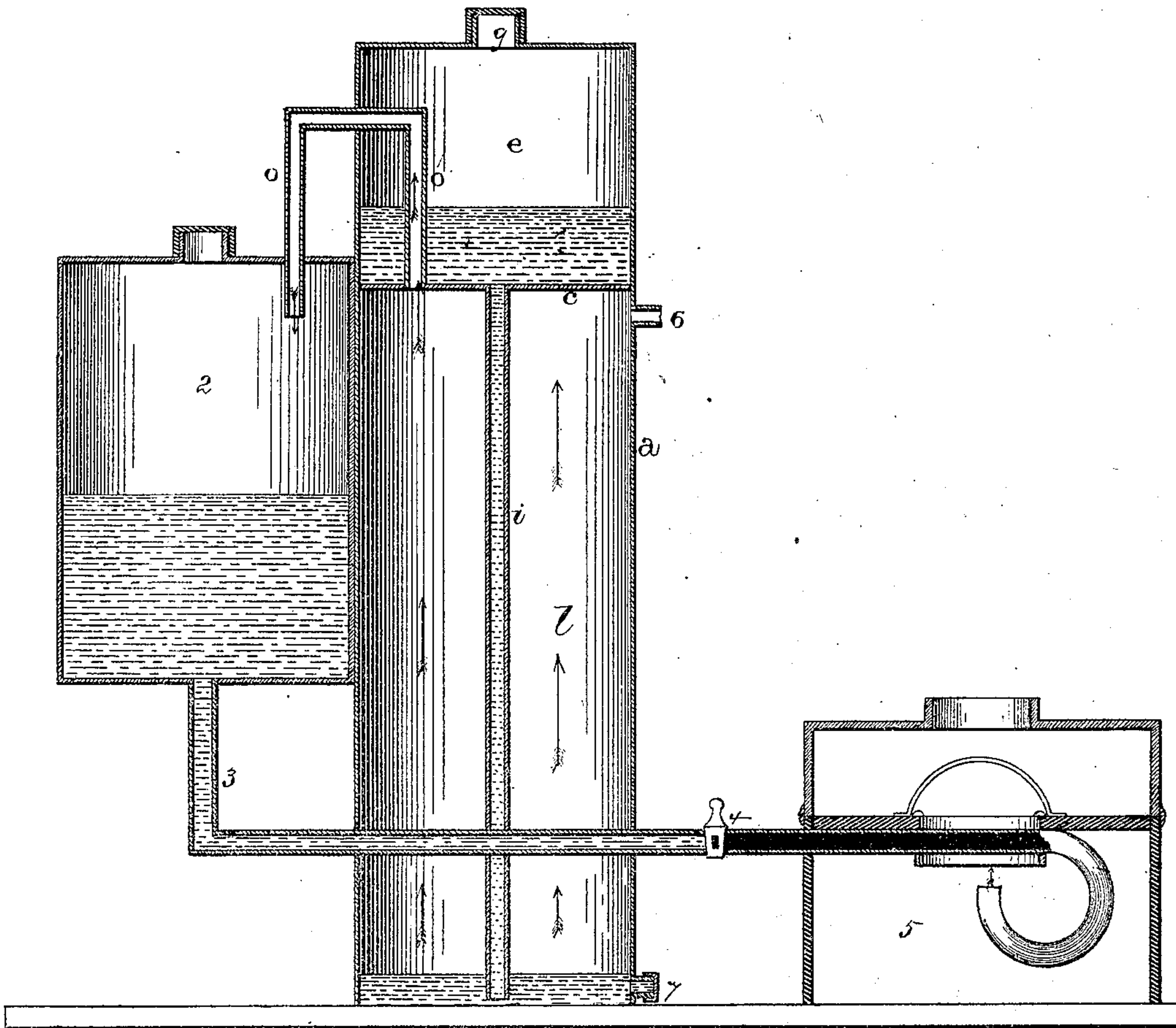


J. BURGESS.

Furnaces for Heating Soldering-Irons.

No. 145,784.

Patented Dec. 23, 1873.



WITNESSES.

*H. R. Duhamel*  
*Alex Davidson*

INVENTOR.

*Josiah Burgess.*

*Per H. S. Affort.*  
*Attorney.*

# UNITED STATES PATENT OFFICE.

JOSIAH BURGESS, OF ZANESVILLE, OHIO.

## IMPROVEMENT IN FURNACES FOR HEATING SOLDERING-IRONS.

Specification forming part of Letters Patent No. **145,784**, dated December 23, 1873; application filed June 19, 1873.

*To all whom it may concern:*

Be it known that I, J. BURGESS, of Zanesville, county of Muskingum and State of Ohio, have invented certain new and useful Improvements in Hydraulic Heating Apparatus for Furnaces, Stoves, &c., of which the following is a specification:

The nature of my invention relates to an improvement in furnace for heating soldering-irons; and it consists in the combination and arrangement of parts, as hereinafter set forth.

The accompanying drawing represents a vertical section of my invention.

*a* represents a chamber, of any desired size or shape, which is divided into two compartments by the partition *c*. Through the top of the upper compartment or chamber *e* is an opening, *g*, through which water is admitted, and which flows from this chamber down through the pipe *i* into the air-chamber *l* below. This pipe extends down almost to the bottom of the chamber *l*, so that its end will be covered by the water as it rises in this chamber, compressing the air upward as it rises. As fast as it is compressed, the air escapes through the siphon air-tube *o* into the top of the oil-reservoir 2, where it presses down upon the top of the light hydrocarbon fluid contained therein, so as to force it through the pipe 3, provided with a suitable valve or faucet, 4, in the shape of gas and fluid to the burner contained in the stove or furnace 5. Leading into the top of the air-chamber is a small pipe, 6, to which is attached

a rubber hose, provided with a suitable valve, so that a person can, by blowing into the chamber, increase the pressure upon the oil, so as to give him a greater flow of the same, and a greater heat in the stove or furnace.

Should it be desired, the oil-reservoir may be placed inside of the chamber *a*, thus making the apparatus more compact, and, by having water both above and below it, it is thus made doubly secure against accidents. The chamber *a* is provided with a suitable cock, 7, so as to draw off the water whenever it is so desired.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination in a furnace for heating soldering-irons, substantially as described, of the chamber *a*, having compartments or chambers *e* *l*, tubes *i* and *o*, with chamber 2 and tube 3.

2. The combination in a furnace for heating soldering-irons, substantially as set forth, of the air-chamber *l*, provided with inlet-pipe 6 for attaching a hose, and the tube *o*, with the chamber 2 and tube 3, all arranged and operating for the purpose of using a blast.

In testimony that I claim the foregoing as my invention I hereunto affix my signature this 16th day of June, 1873.

JOSIAH BURGESS.

Witnesses:

FRANK H. SOUTHARD,  
WM. CAMERON.