J. J. JARVES.

FURNACES AND STOVES.

No. 193,089. Patented July 17, 1877.

Fig. 1.

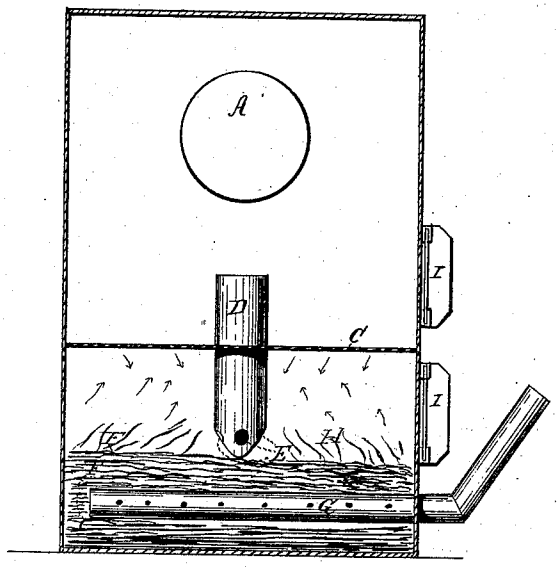
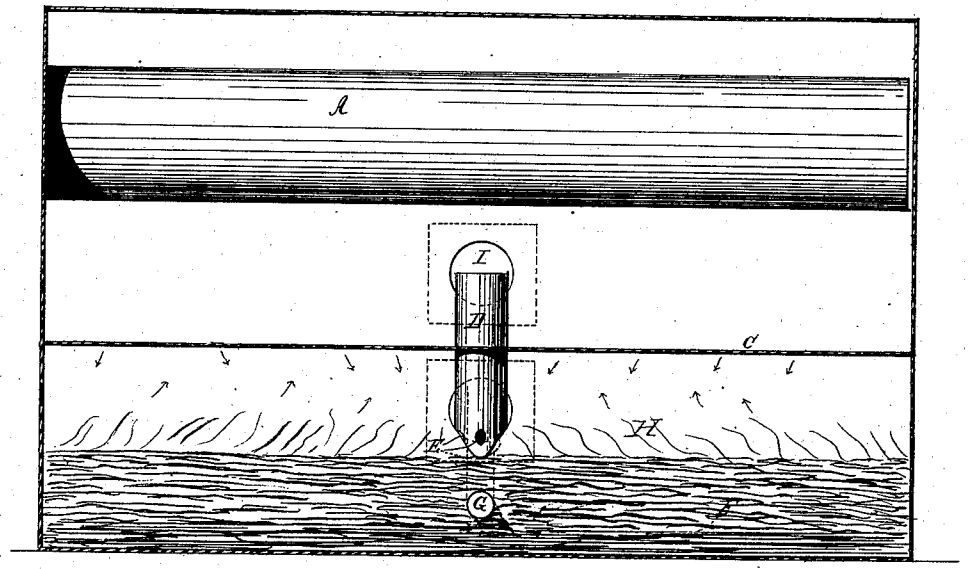


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

JAMES J. JARVES, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN FURNACES AND STOVES.

Specification forming part of Letters Patent No. **193,089**, dated July 17, 1877; application filed March 7, 1877.

To all whom it may concern:

Be it known that I, JAMES J. JARVES, of Boston, in the county of Suffolk and Commonwealth of Massachusetts, have invented Improvements in Furnaces and Stoves adapted for burning petroleum and other mineral oils with safety, and also for making gas, by means of a suitable stove or lamp, constructed according to the principles set forth in the following specification, reference being had to the accompanying drawings.

This invention relates to the arrangement and construction of furnaces, stoves, lamps, and other articles specially adapted for burning mineral oils with safety. As a rule mineral oils are highly dangerous, on account of their explosive nature, where ignited in the ordinary way.

Now, the object of this invention is to provide the means of burning any of these natural products with perfect safety. Under one form or modification of arrangement the furnace, stove, or other article, consists of any outer casing of any suitable figure, the lower part of which forms a receptacle for the fire-proof safety medium, through which the petroleum or other hydrocarbon permeates.

In the lower part of this receptacle is arranged a perforated tube, through which a stream of oil flows from the continuous reservoir. In this receptacle is placed a quantity of asbestus, which may or may not be economized by mixing it with a lower stratum of pumice-stone, talc, the silicates of magnesia, or wood-ashes. Or, if preferred, one or more of these materials may be used without the asbestus, and be applied generally to my furnaces.

Upon the bed of fire-proof material thus formed are arranged one or more vertical tubes, forming so many chimneys, opening immediately below the boiler or other surface to be heated.

Near the upper part of these chimneys is arranged a diaphragm or horizontal partition, which incloses the contents of the receptacle beneath. The lower ends of the tubular chimneys are perforated or serrated, to permit the gaseous flames of the burning oils to pass up freely. These chimneys, as well as the other parts of the furnace, stove, gas-lamp, or other article, constructed on the principle of this invention, may, if desirable, be lined with mill-board or slabs or sheets of paper made of asbestus, so as to form a complete protective surface to the metal.

In this way, when the oil is allowed into the receptacle and is ignited, the ventilation is so arranged that it burns with a smothered flame, which serves to heat to a high degree the lower part of the chimneys, before referred to. The partially-consumed gaseous products rush through the chimneys and are flashed into flame of great heating intensity on emerging from the upper ends of the chimneys, and the entire gaseous product of the oil is utilized and consumed with safety and economy, either as a heater or illuminator.

The accompanying drawings show the method of combustion of my invention, which can be varied and appliedas needed.

A is the boiler or article to be heated; C, diaphragm or partition; D, tubular inner chimney; E, holes or serrated apertures for gaseous flames to pass into and up the tube; F, fire-proof bed or medium for holding and burning the oil; G, feeding-pipe; H, smothered flames or gases. I I are doors above and below the diaphragm.

What I claim as my invention and improvement is—

1. The combination of the receptacle for oils, containing asbestus or other loose fire-proof materials, the diaphragm, and the chimney, provided at its lower end with holes or serrated apertures, and passing up through the diaphragm, substantially as and for the purposes described.

2. The above-described method of burning hydrocarbon oils and generating gas therefrom by igniting the oils in a receptacle containing fire-proof materials, and emitting the gas through a chimney projecting out of the receptacle, and provided at its lower end with holes or serrated apertures.

JAMES J. JARVES.

Witnesses:
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OTTAVIO BUCCI.