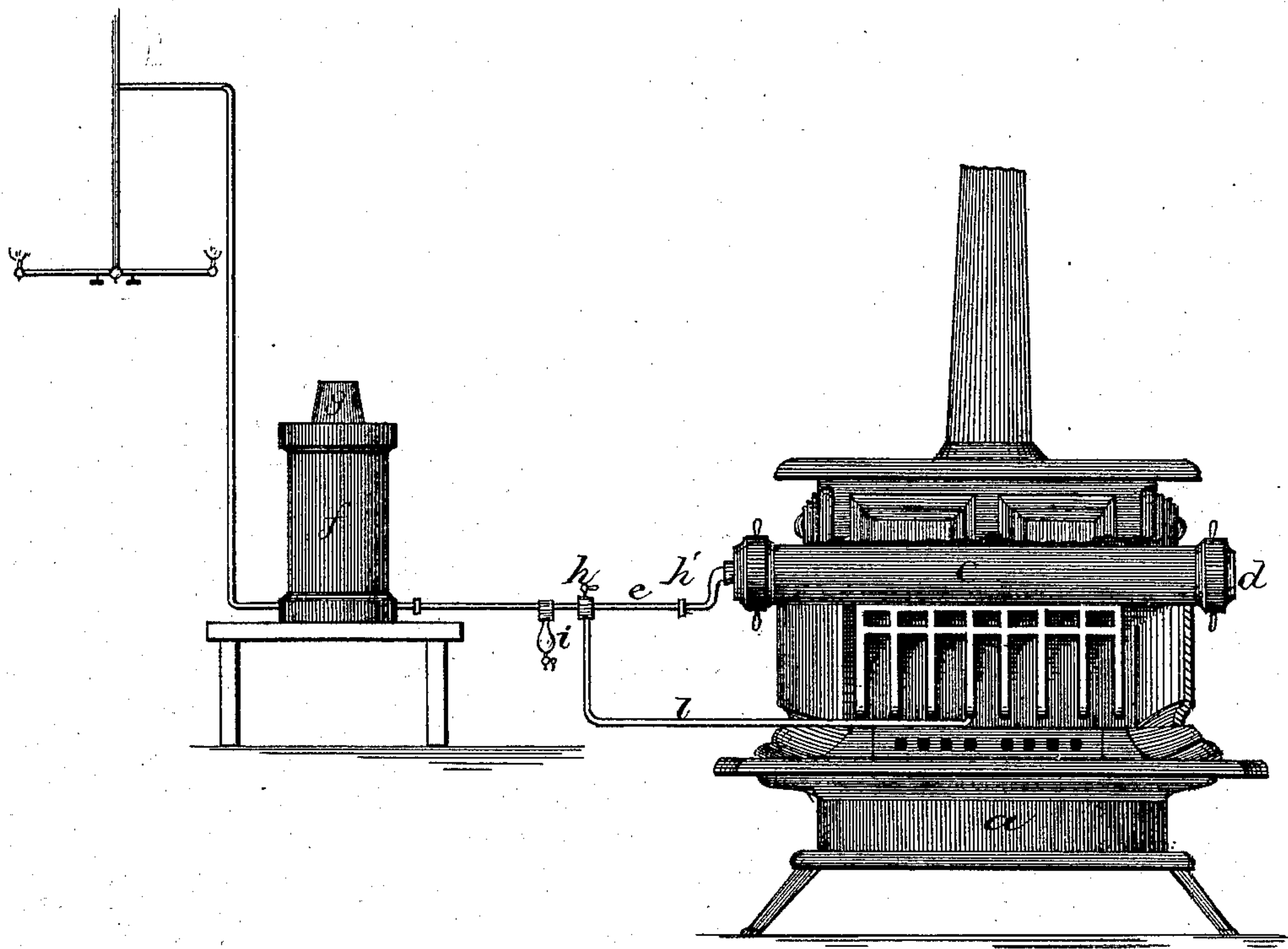


J. T. GUTHRIE.
Gas-Generator.

No. 219,639.

Patented Sept. 16, 1879.



Witnesses:

J. W. Garner?
W. S. O'Hannes

Inventor:
Jas. T. Guthrie
per
F. A. Lehmann,
att'y.

UNITED STATES PATENT OFFICE.

JAMES T. GUTHRIE, OF LEESBURG, OHIO.

IMPROVEMENT IN GAS-GENERATORS.

Specification forming part of Letters Patent No. **219,639**, dated September 16, 1879; application filed April 19, 1879.

To all whom it may concern:

Be it known that I, JAMES T. GUTHRIE, of Leesburg, in the county of Highland and State of Ohio, have invented certain new and useful Improvements in Gas-Generators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawing, which forms part of this specification.

My invention relates to an improvement in gas-generators intended for generating gas in houses; and it consists in the combination of a cooking-stove, a retort which is placed in the back part of the upper portion of the fire-chamber, and which projects through both sides of the stove, suitable pipes for conveying the gas to the gasometer and into the grate, a tar-trap, and suitable cocks, as will be more fully described hereinafter.

Figure 1 is a front view of a cooking-stove, showing my invention as applied thereto.

a represents a cooking-stove, of any desired construction, having a retort, *c*, placed just back of the fire-chamber, so that all the products of combustion pass just under it or over its top in escaping up the chimney. One end of this retort, which may be of any desired shape, extends beyond one side of the stove and receives a gas-tight cap or head, *d*, which is easily removable, so that the charge of coal from which the gas is to be made can be inserted at any time and the coke removed after the distillation has taken place. This retort is connected by a pipe, *e*, with the gasometer *f*, which is provided with a suitable weight, *g*, springs, or other equivalent device for regulating the pressure of the gas to the burners. This pipe *e* is furnished with a stop-cock, *h'*, so as to keep the gas in the gasometer while the end of the retort is open to receive a fresh charge, or the coke is being taken out. On the under side of this pipe, at any suitable point, is a flask, *i*, having a stop-cock in its lower end, and which flask serves to collect the coal-tar that passes into the pipe. All the tar that settles in this flask can be drawn off at any time through the cock.

Connected to the pipe at any point may be a pipe, *l*, which will convey the gas into the stove, to be used for cooking purposes when there is more than is necessary for illuminating purposes alone, and which pipe has the cock *h* at its upper end.

The reservoir may be placed at any desired distance from the house, or in any desired place, and any method or process preferred for purifying the gas may be used in connection with this apparatus.

As a cooking-stove is in use in every family, and runs all the year round, by my invention every family can make their own gas and at very slight expense. Heat that would otherwise be lost is thus utilized for a very beneficial purpose.

As all of the coke taken out from the retort can be used as fuel, and as no extra fire or heat is required for generating the gas, it will readily be seen how cheaply the gas can be made.

I am aware that a retort has been placed in a grate for the purpose of generating gas; but the objection to a grate is, that if the gas is to be generated in the summer or during warm weather, there must be made a special fire for this purpose, and this fire will then make the apartment uncomfortable.

I am also aware that retorts have been placed in regular settings and made to extend through at both of its ends, and this I disclaim.

Having thus described my invention, I claim—

The combination of a cooking-stove with a retort, *c*, located at the back of the upper part of the fire-chamber, and which extends through the stove at both ends, with the pipe *e*, trap *i*, gasometer *f*, pipe *l*, and cock *h*, all being arranged and operating substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand.

JAMES T. GUTHRIE.

Witnesses:

WM. W. HARDY,
GEO. T. HARDY.