LESLEY & CRAIG.

Gas Stove.

No. 52,299. Patented Jan'y 30, 1866.

Fig: 1.

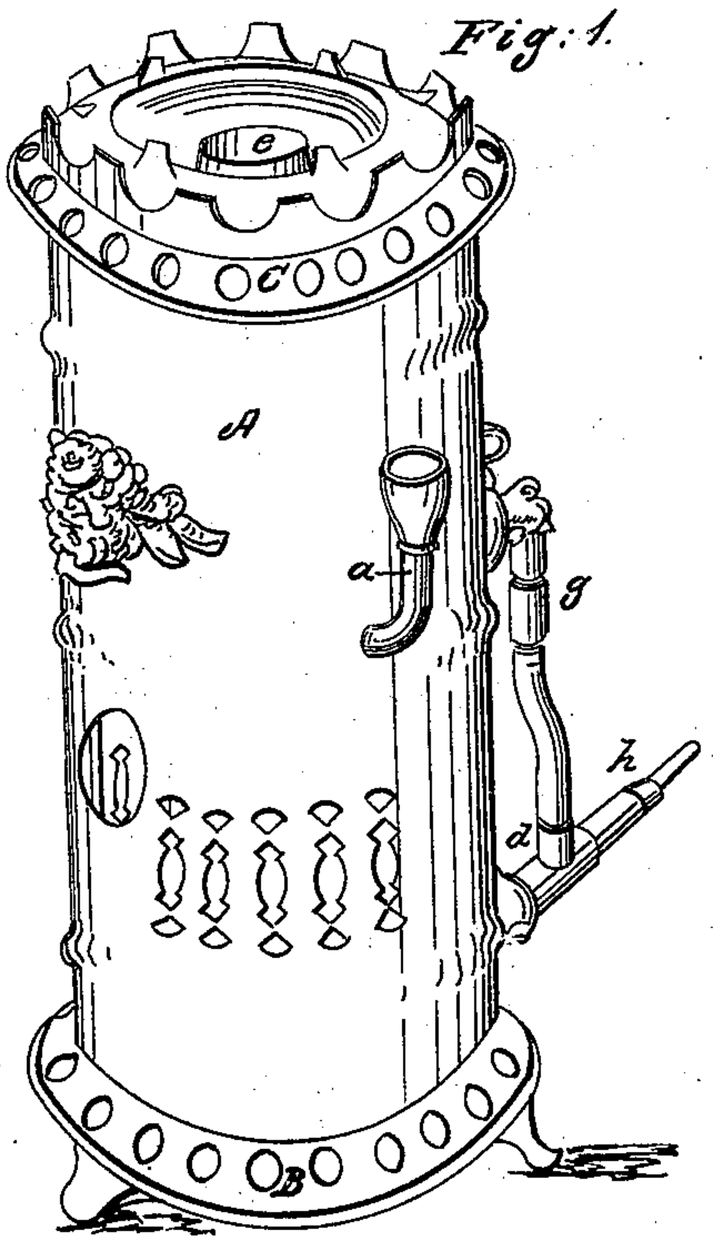


Fig: 2.

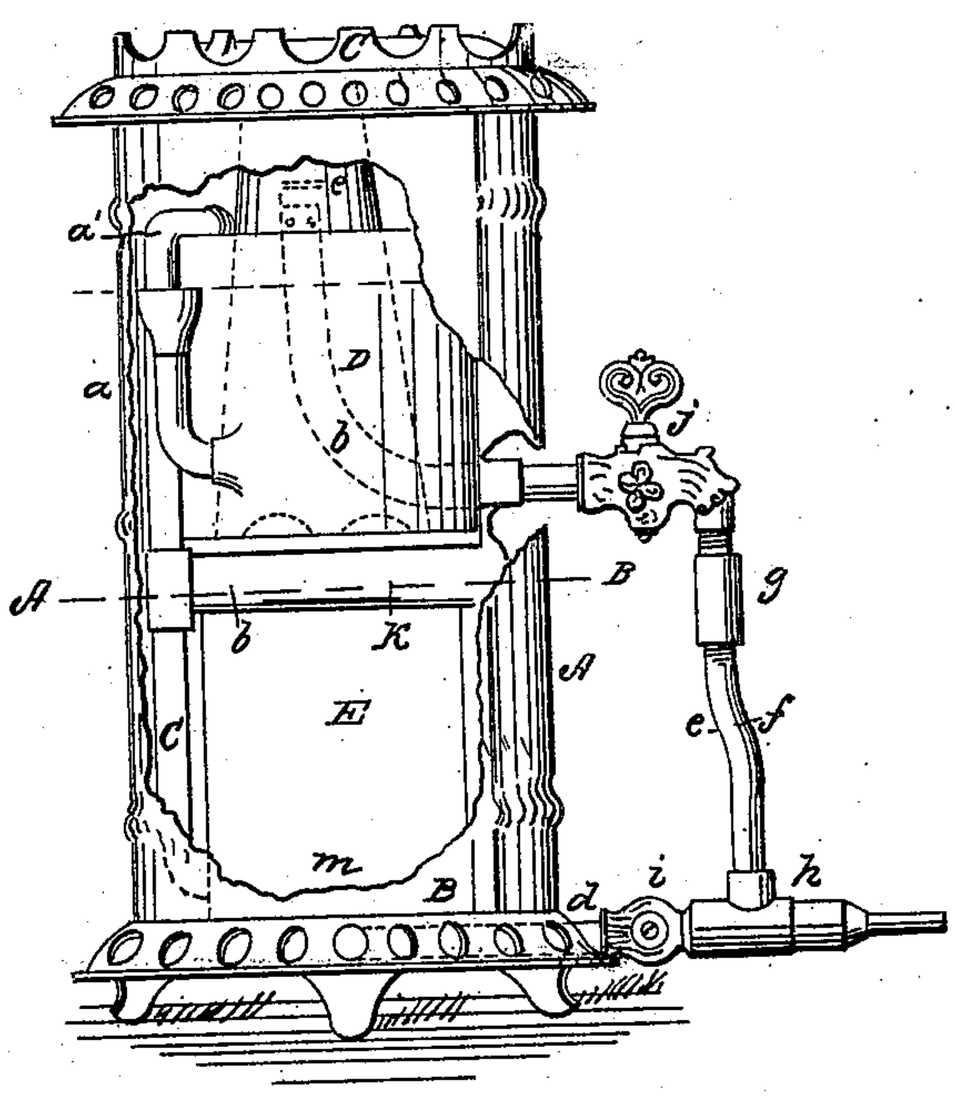
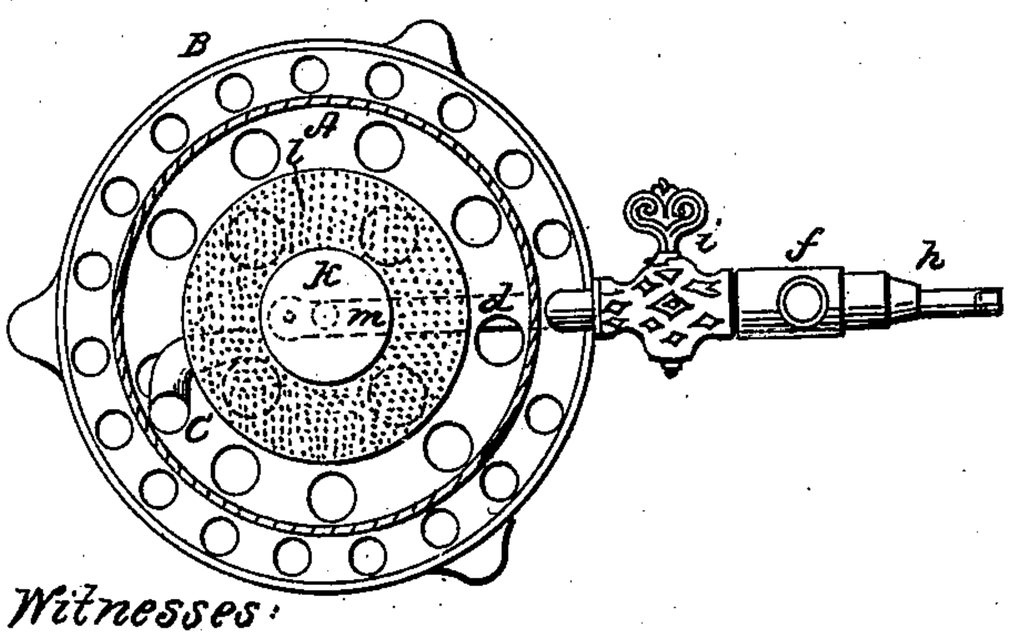


Fig: 3.



Witnesses:

Jas. F. Lewis

Edward Osborn.

Inventors:

Alex. M. Lesley.

Jm. Craig.

UNITED STATES PATENT OFFICE.

ALEXANDER M. LESLEY, OF NEW YORK, AND WILLIAM CRAIG, OF BROOKLYN, N. Y.

IMPROVEMENT IN GAS-STOVES.

Specification forming part of Letters Patent No. **52,299**, dated January 30, 1866.

To all whom it may concern:

Be it known that we, WILLIAM CRAIG, of Brooklyn, in the county of Kings and State of New York, and ALEXANDER M. LESLEY, of the city, county, and State of New York, have invented certain new and useful Improvements in Gas-Stoves; and we do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, figures, and letters of reference thereon, making part of this specification.

Of the said drawings, Figure 1 is a perspective view of a gas-stove embodying our invention. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a horizontal section taken through the line A B, Fig. 2.

Similar letters of reference indicate like parts in all the drawings.

Our invention consists, first, in combining with a gas-stove a steam generator or boiler, whereby a current of steam may be generated and thrown in contact with the flame of gas, and thereby insure more perfect combustion and greater heat.

The second part of our invention consists in combining with a gas-stove and a steam-generator a cone for directing the steam to the flame of gas.

The third part of our invention consists in a novel arrangement of parts whereby a current of steam is made to act upon a flame of gas for generating steam in the boiler.

To enable others skilled in the art to make and use our invention, we will describe the construction and operation thereof.

A represents a sheet-metal cylinder, the lower end of which is fitted to the base B and the upper end to the top C, and the three parts are secured together by bolts and nuts. The base B is cast with perforations, and the top C open for obtaining a good draft of air.

D is a steam-generator, which is inserted within the cylinder A, and is supported upon the pipes *a b*, one of which, *a*, is a pipe for filling the boiler with water, while the other, *b*, forms the induction-pipe and burner for the gas.

E is a cylinder, the lower end of which is open and rests upon the base B, while the other end is covered with a finely-perforated plate or sieve, *l*. On top of this perforated plate or sieve there is a small circular plate, *k*, around the circumference of which the gas rises to generate steam in the boiler D.

In the bottom of the cylinder a pipe, *d*, is inserted, which has a short elbow, *m*, through which gas passes to the cylinder by the cock *i*, and rises, assisted by the draft of air, through the perforated plate or sieve *l*.

To the generator D a tube, *a' c*, is attached, (see Fig. 2,) which passes down the cylinder A and into the cylinder E, for conveying a current of steam, which acts to force the flame of gas upon the under surface of the boiler, and greatly facilitates making steam.

In the top plate of the boiler we cut a hole for the passage of a conical tube, *e*, (see Fig. 2, dotted lines,) which tube is made tight to the boiler-cap before the cap is screwed to the shell. The bottom of this pipe *e* is perforated or cut away, so that water will pass to the inside thereof.

The operation will be as follows: The boiler D is filled with water through the pipe *a*, the plane of the pipe being lower than the top of the boiler to allow sufficient steam-room. The end of the tube *b* is plugged or capped and a row of small holes made just below the plug for the gas. The gas is then taken through the pipe *h*, which connects with the pipes *d* and *b* by means of the pipe *f* and coupling *g*, and the flow is regulated by the cocks *i j*. The gas is lighted at the pipe *m*, and rising up to the boiler heats the water, generates steam, which passes through the pipe *a' c* into the cylinder E, and forces the flame of gas through the perforated plate *k* and against the boiler with a greatly increased effect, and steam is made rapidly. The gas is then lighted at the holes in the pipe *b*, the flame rising up through the cone *e*, assisted by a draft of air up through the cylinder A. The steam, which is generated from water inside the cone *e*, rising up, causes the flame of gas to expand, produces more perfect combustion and increased heat, and destroys the disagreeable odor arising from gas.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a gas-stove, of a

steam generator or boiler, whereby a current or jet of steam is generated and thrown up in contact with a flame of gas, thereby insuring more perfect combustion and greater heat, substantially as described and specified.

2. Combining with a gas-stove constructed with a steam-generator, substantially as described, a cone, *e*, or equivalent device, for directing the steam to the flame of gas, substantially as described, and for the purposes specified.

3. The combination and arrangement of the steam-generator D, cone *e*, pipes *b* and *d*, with their connection, and the cylinder E, constructed and operating substantially as described and specified.

ALEX. M. LESLEY.
WM. CRAIG.

Witnesses:
C. A. DURGIN,
EDWARD OSBORN.