

J. S. THOMAS.
PORTABLE GAS APPARATUS.

No. 178,688.

Patented June 13, 1876.

Fig. 1

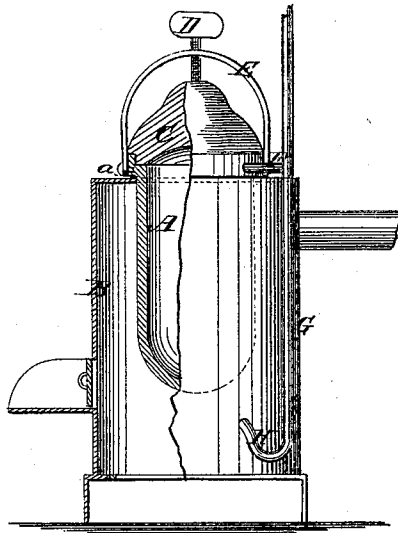
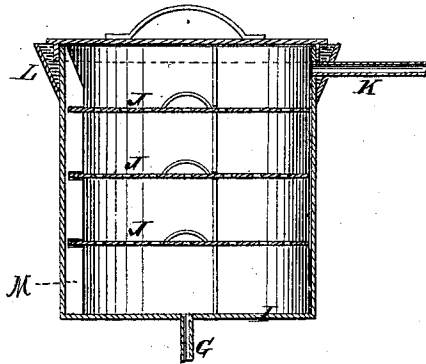
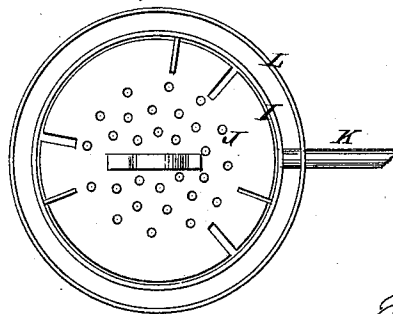


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN S. THOMAS, OF MARYVILLE, TENNESSEE.

IMPROVEMENT IN PORTABLE GAS APPARATUS.

Specification forming part of Letters Patent No. **178,688**, dated June 13, 1876; application filed April 4, 1876.

To all whom it may concern:

Be it known that I, JOHN S. THOMAS, of Maryville, county of Blount and State of Tennessee, have invented a new and useful Improved Portable Gas Apparatus, of which the following is a specification:

The improved gas-generator, which I call domestic gas-generator, consists of a hollow cylindrical retort, made of iron or other suitable metal, with an iron cap ground to fit the top. Over this cap there passes a strong iron bail, through which there passes a perpendicular screw pressing on the top of the cap, thus holding it firmly to its place. In this retort is to be placed fine or small broken bituminous coal. The retort is made to fit the hole of a stove, an apparatus prepared with it for a common grate or fire-place, or it may be used in a furnace made for the purpose. From the retort and near the cap is a pipe extending a short distance intersecting with a perpendicular pipe. At the intersection of these two pipes the gas and tar separate, the tar falling below into the pipe, which descends below the bottom of the retort, on the outside of the stove, then crooks upward and goes into the stove, fire, or furnace, the accumulation of gas and tar forcing it into the fire, and helping to create the heat necessary to manufacture the gas; or may be conducted elsewhere, if desired.

The upper part of the pipe, from the intersection above mentioned, conveys the gas any distance that may be desired to a tin vessel or purifier, which is packed alternately between sheets of perforated tin, made fast by catches to pieces fastened within, with lime and sawdust, or any material that will purify the gas. At the end from which the gas escapes there is applied a band flaring from the body of the purifier, thus making a channel in which water is to be kept, and a lid, covering the main part of the purifier extending down into the water, prevents the escape of gas. From this purifier extends another pipe running into an ordinary gas-reservoir, or it may be direct to a gas-burner.

With this apparatus every family can manufacture their own gas, with which they can light their buildings, at the stove on which they cook their meals, in the fire or heater by which they warm themselves, or in the furnace made for the purpose, without any expense except for the apparatus with which it is manufactured, not even losing the heat with which it is made, but rather on the contrary, utilizing it.

In the drawing, Figure 1 is a sectional elevation of the apparatus, and Fig. 2 is a top view of the purifier, with the cover removed.

Similar letters of reference indicate corresponding parts.

A is the retort, which is made to fit in the hole of the top of a stove, B, or any other heater, and rest on its flanges *a*. C is the cap or cover, which is fitted on with a grooved joint and closed down tight by the adjusting-screw D in the bail E. F is the pipe going out from the cap C and intersecting with the vertical pipe G, which at the bottom has a trap, H, and enters the fire-chamber to discharge the tar into it, and at the upper end enters the bottom of the purifier I, which is packed with lime and sawdust, or other purifying material, between the plates J. Said plates are perforated and retained at the proper distance apart by means of strips M on the inside of the purifier-vessel. From the top of this purifier the gas is conducted to any suitable holder, or directly to the burners, by pipe K. L is the water-packing at the top of the purifier to prevent the escape of the gas.

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

The gas-purifier, consisting of the vessel I, having internal strips M, the perforated plates J, sealed cover L, and pipes G K, as and for the purpose set forth.

JOHN S. THOMAS.

Witnesses:

WILL A. McTEER,
W. E. B. HARRIS.