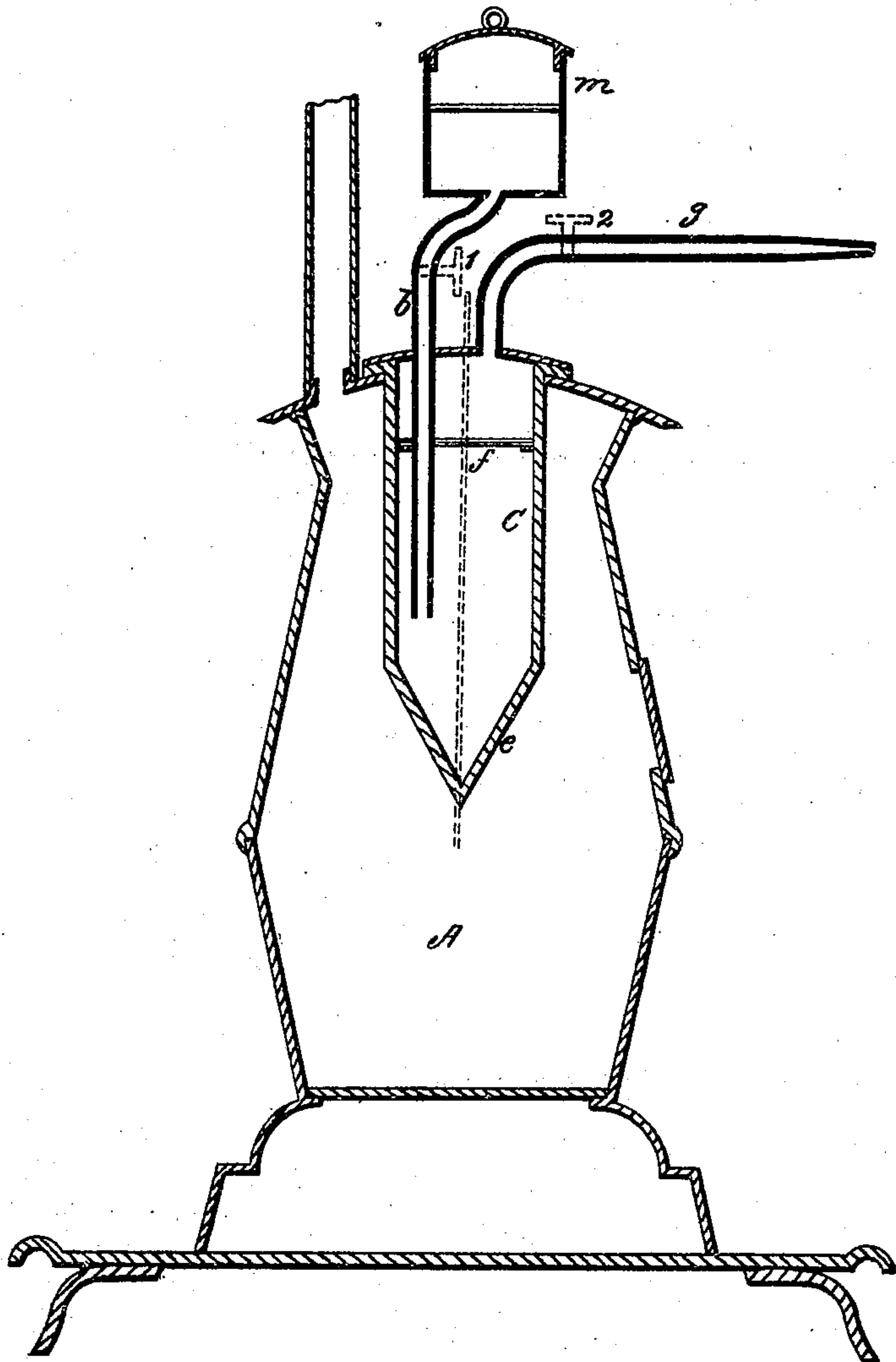


J. McWILLIAMS.

Gas Generator.

No. 55,328.

Patented June 5, 1866.



Witnesses:

James F. Johnston
James McBride.

Inventor:

John McWilliams.

UNITED STATES PATENT OFFICE.

JOHN McWILLIAMS, OF PITTSBURG, PENNSYLVANIA.

IMPROVED GAS-GENERATOR.

Specification forming part of Letters Patent No. 55,328, dated June 5, 1866.

To all whom it may concern:

Be it known that I, JOHN McWILLIAMS, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Gas-Generators in Combination with a Stove or Heater; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing, and to the letters marked thereon.

The nature of my invention consists in combining with the ordinary heating or cooking stove or heater a gas-generator, constructed, arranged, combined, and operating in the manner hereinafter described.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the accompanying drawing, A represents an ordinary heating-stove furnished with the gas-generator, (marked *c*,) the bottom *e* of which is made in the form of an inverted cone. Near the top of the generator is placed a rack of open-work, (marked *f*,) On this rack is placed lime or other suitable material for the purpose of purifying the gas as it is generated.

The generator is furnished with a pipe, (marked *b*,) which extends down into the generator near to the coniformed bottom, (marked *e*,) On the upper end of the pipe *b* is a vessel, (marked *m*,) which is used for supplying the generator with petroleum or other suitable oil for making or generating gas. The pipe *b* is furnished with a suitable valve, as indicated by the dotted lines marked 1, which is used for the purpose of regulating the flow of oil into the generator. This valve can be made self-regulating by means of a rod attached to the key of the valve, and so arranged that the expansion and contraction of the rod shall so operate the key of the valve that it will close or open in accordance with the degree of heat used for generating the gas—that is to say, if a high degree of heat is used, then the valve will open in proportion to the heat and will close as the heat becomes low, thereby pre-

venting any accumulation of oil in the generator. Other devices for making this valve self regulating will readily be suggested to the minds of those skilled in the art. The generator *c* is furnished with a pipe, (marked *g*,) to which may be attached a gas-burner. This pipe is furnished with a valve, (marked 2, shown in dotted lines.) This valve is used for regulating the flow of gas to the burner. The pipe *g* may be, if desired, used for conducting the gas from the generator to a suitable reservoir, from which the gas may be conducted by pipes through the various parts of the house, shop, or other place.

It will be readily seen that in combining the gas-generator with the stove or heater any of the known appendages can be connected to it; therefore I do not confine myself to any particular arrangement of vessel for supplying oil to the generator or to any particular mode of conducting the gas from the generator.

The operation of my improvement is as follows: Petroleum or other oil is conducted into the generator *c* in very small quantities by means of pipe *b*, and as the oil drops on and flows down the coniform bottom *e* of the generator *c* it is by the heat of the stove converted into gas, which is conveyed off through pipe *g* and burned in the usual manner.

The advantages of my improvement consist in furnishing a cheap means for making a cheap gas for all who are not within the reach of large gas-works.

Having thus described the nature, construction, operation, and advantages of my improvement, what I claim as of my invention is—

The arrangement of the stove A, gas-generator *c*, furnished with a coniformed bottom, *e*, rack *f*, pipes *b* and *g*, and vessel *m*, arranged, constructed, and operating substantially as herein described, and for the purpose set forth.

JOHN McWILLIAMS.

Witnesses:

JAMES J. JOHNSTON,
ALEXANDER HAYS.