THOMAS B. FOGARTY.

Improvement in Gas-Machines.

No. 115,592. Patented June 6, 1871.

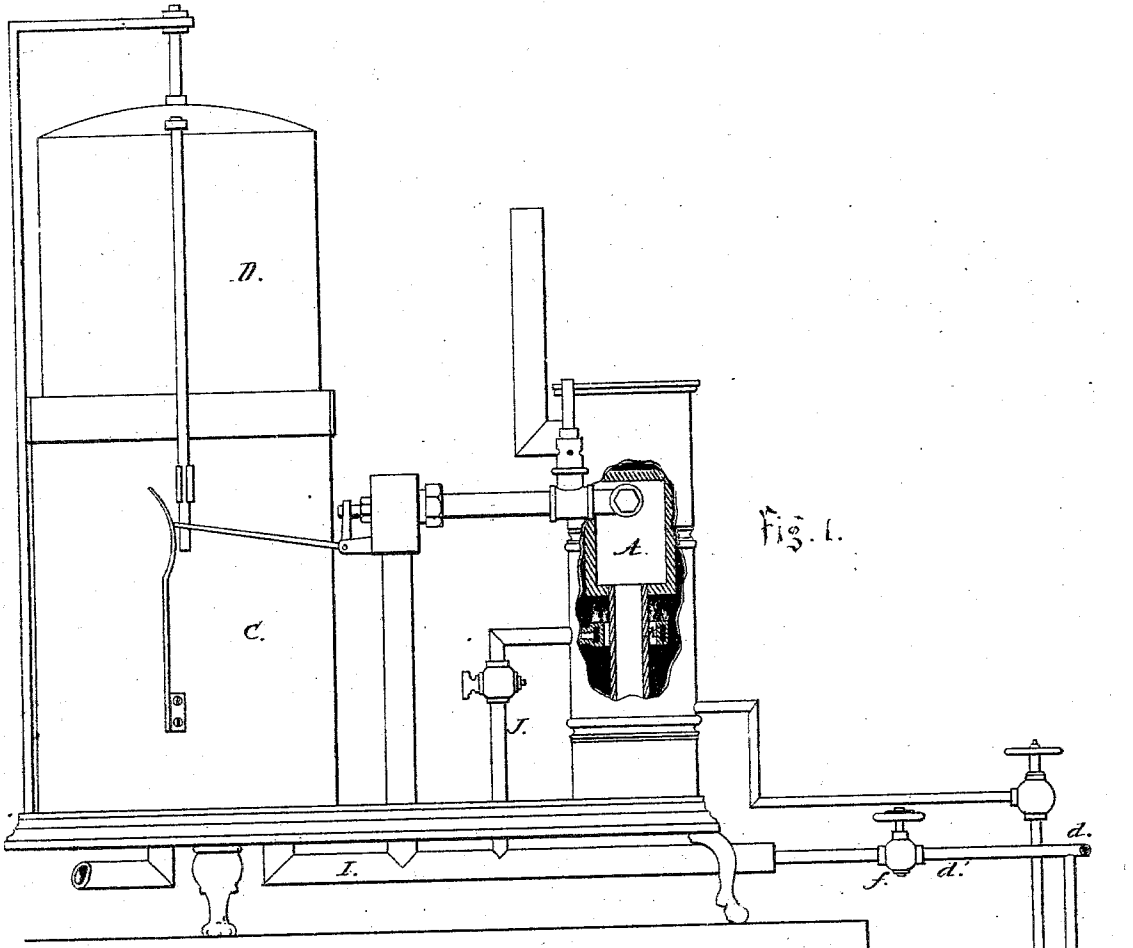


Fig. 1.

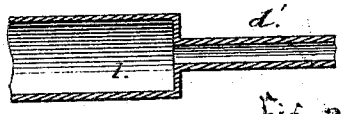


Fig. 2.

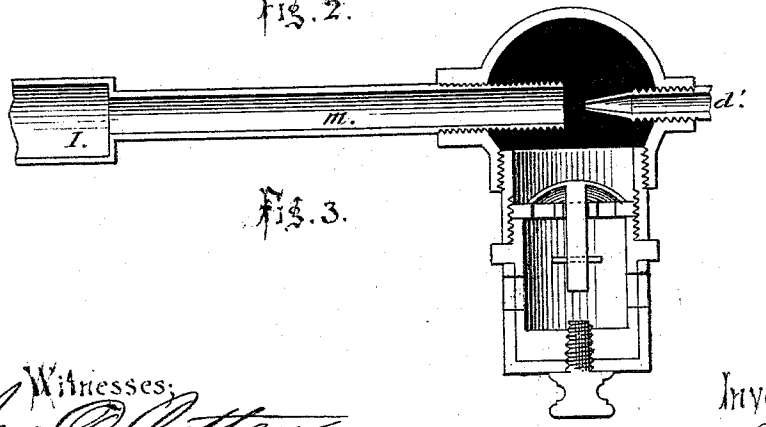


Fig. 3.

Witnesses;
Jno. D. Patten
H. T. Hutchinson

Inventor;
Thos. B. Fogarty

4M. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS.)

115,592

UNITED STATES PATENT OFFICE.

THOMAS B. FOGARTY, OF KINGS COUNTY, NEW YORK.

IMPROVEMENT IN GAS-MACHINES.

Specification forming part of Letters Patent No. 115,592, dated June 6, 1871.

I, THOMAS B. FOGARTY, of the county of Kings and State of New York, have invented a certain Improvement in Gas-Machines, of which the following is a specification:

Nature and Objects of the Invention.

My invention relates to those gas-machines in which the gas or vapor is generated from hydrocarbon liquid contained in a retort heated by the external application of heat derived from the combustion of part of the gas manufactured in the machine itself; and its object is to facilitate the heating of the retort when the machine is first started.

In some machines of the above class it is customary to burn some alcohol under the retort until it has acquired heat sufficient to generate vapor or gas, after which the combustion of a portion of the gas in a suitable burner furnishes all the heat required. In others, vapor-burners are attached to the machine, and, by means of it, get the retort up to a working heat; while in others gas is manufactured for the purpose of heating the retort by raising a gas-holder, provided with suitable valves and ducts, so that when the holder is raised air is drawn into it through a chamber containing gasoline.

My invention consists in the arrangement of pipes leading from a tank containing hydrocarbon liquid, and into which compressed air is forced to the burner, heating the retort, and to the gas-holder, so that the vapors can be conducted from the tank of hydrocarbon and compressed air to the burner for heating the retort and the gas-holder; or, from the gas-holder to the retort burner, it being first filled either to each singly, or to both, either with or without the induction of an additional portion of air, as may be desired.

In the drawing, Figure 1 shows a gas-machine containing my improvements—

A being the retort, which is shown in section; B, the burner; C, the gas-holder tank; and E is a tank containing some gasoline, *a*, and a quantity of compressed air, *b*. F is the pipe through which gasoline or other hydrocarbon liquid is forced into the retort by the expansive force of the volume of compressed air, *b*, acting on its surface. H is an air-pipe, one branch of which leads to a pump or other apparatus suitable for compressing it. The other branch, *d'*, of this pipe H communicates with the inlet-pipe I, to the holder, and the gas-pipe J leading to the burner K, or with either of them; and this pipe *d'* I furnish with a suitable valve or cock, *f*, by means of which communication between the inlet-pipe I or burner-pipe J, or both of them and the tank E can be cut off whenever the retort has become hot enough to make gas to heat itself.

Figs. 2 and 3 show the pipes I and *d'* in section. Fig. 3 shows the pipe *d'* joined directly to I, so that the supercarbureted air in the tank will be conveyed directly to the holder or the burner K without any further admission of air, or rather, it should be said, admixture. Fig. 3 shows an air-induction apparatus placed between the pipes I and *d'* for the purpose of inducing an additional volume of air.

Claims.

I claim—

1. A hydrocarbon-tank, E, containing compressed air for forcing carbureted air directly to the burner for heating the retort, or to the gas-holder, or to both at the same time, in combination with the pipes H, *d'*, J, and I, substantially as set forth.

2. The subject-matter of the first claim, in combination with a gas-machine, consisting of a retort, A, gas-holder D, and gas-holder tank C, substantially as set forth.

THOS. B. FOGARTY.

Witnesses:
S. E. SEYMOUR,
ROBERT PATON.