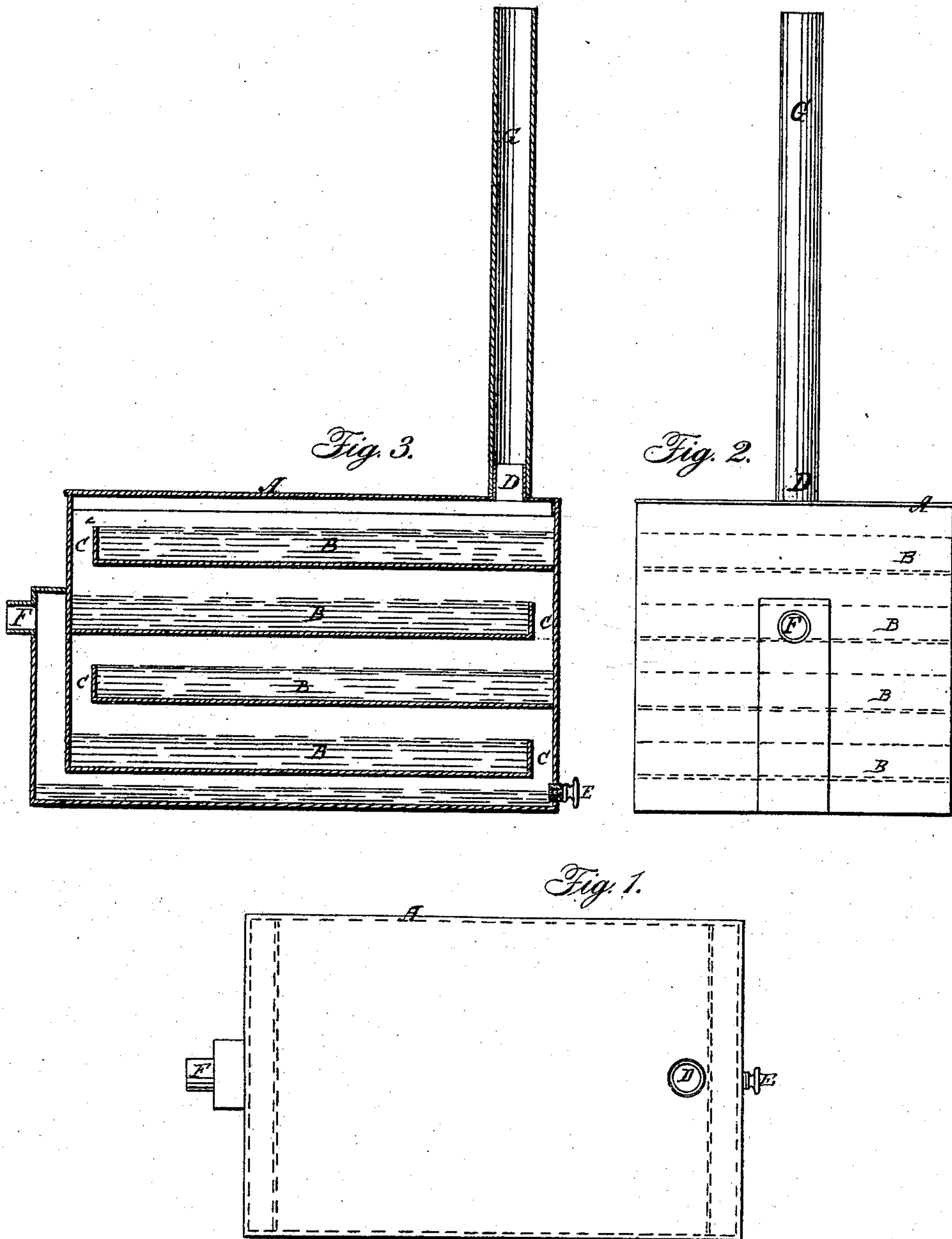


J. A. BASSETT.
Carbureter.

No. 66,071.

Patented June 25, 1867.



Witnesses:

H. B. Mansfield.
Geo. B. Appleton.

Inventor:

John A. Bassett.

United States Patent Office.

JOHN A. BASSETT, OF SALEM, MASSACHUSETTS, ASSIGNOR TO JOHN H. IRWIN AND ISAAC SIMMONS.

Letters Patent No. 66,071, dated June 25, 1867.

IMPROVEMENT IN THE MANUFACTURE OF ILLUMINATING GAS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN A. BASSETT, of Salem, in the county of Essex, in the State of Massachusetts, have invented a new and improved Method of Manufacturing Illuminating Gas; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object of this invention is to produce an illuminating gas from the vapor of a volatile hydrocarbon liquid, by arranging a vaporizing apparatus so that the vapor evolved shall, by its own weight or gravity, pass downward through the pipe to the burners, to be consumed. In taking advantage of the gravity of the vapor of gasoline, a vaporizer must be placed at a sufficient height to give a sufficient pressure. And to this end a reservoir containing a supply of gasoline, arranged with large surfaces, or agitated by means herein described, is placed in the highest part of the building to be lighted, so that the vapor, as it is evolved, will flow down and distribute through the piping continuously, and with sufficient pressure to afford a regular light at the burners.

To enable others skilled in the art to make and use my invention, I will proceed to describe the manner in which I have carried it out. In the drawing—

Figure 1 is a transverse section.

Figure 2 is an end view.

Figure 3 is a vertical section of the apparatus employed.

Similar letters of reference refer to like parts in all the figures.

The chamber or case of the vaporizer A is made of sheet brass by preference, although other materials may be used; and I prefer the shape represented, but it may be circular or other convenient form. This case has a number of shallow pans, B B B B, with an opening, C C C C, at alternate ends. These pans are to be filled with gasoline through the inlet pipe D, and it may be ascertained when it is full by the overflow screw-cap E at the bottom. The vapor is evolved from the surface of the liquid in these pans, and, the top of the vaporizer being open at D, it passes down in alternate directions over the surface of the liquid to the bottom of the vaporizer, and out through the outlet F to the pipes to be burned. The outlet F is made in the form of a siphon, so that, in case the vaporizer should be filled too full, the liquid will not pass down into the piping and fill it, which it would do if the outlet were at the bottom of the vaporizer. The inlet D has a long upright pipe, G, placed over it, and fitting tight round it. The object of this pipe is to prevent the waste of vapor when the machine is not in operation. The vapor, being heavy, does not rise in the pipe.

The size of the vaporizer should be proportioned to the number of burners used. The volatility of the hydrocarbon, and the degree of cold to which it may be subjected, all of these conditions affect the vaporizing power of the apparatus, and it should be made larger or smaller as it is necessary to conform to these conditions.

The gasoline used should be the very lightest that it is possible to obtain—not less than 80° Baumé. When it is not convenient to obtain so volatile a hydrocarbon, or where the apparatus is to be exposed to a degree of cold which would affect its vaporizing powers, a vaporizer may be used which will keep the gasoline constantly agitated, and thus favor the evolution of the vapor. This may be accomplished in any convenient way, either by revolving-fans, as in my patent applied for July 7, 1865, or by an arrangement of an endless chain, with buckets, to keep a shower of gasoline constantly in motion. Probably the best method is that of an upright fan on a vertical shaft, or a number of them arranged to revolve in shallow pans, and enclosed in a suitable casing.

By the use of any of these means the vapor of the gasoline is given off more readily, in larger quantities, and at a lower degree of temperature than from still surfaces. For it must be remembered that the evaporation of the gasoline produces a degree of cold which prevents the continuous evolution of the vapor, which is, to a great extent, overcome by the agitation of the liquid.

This method of producing illuminating gas differs from the ordinary carburetting of air, by passing it through gasoline. The vaporization of the hydrocarbon produces the whole amount of gas necessary for the light. This fact will be apparent if it is remembered that it is the weight of the pure vapor which produces the pressure necessary to maintain the light, and, if much air is mingled with it, it would not have sufficient gravity.

The piping, stop-cocks, and fixtures, should be large; the burners used without checks, as the pressure is very small.

Having thus fully described the nature of my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The manufacture of an illuminating gas from the vapor of gasoline, or other volatile hydrocarbon liquid, when the apparatus used is placed above the point of combustion, and so arranged that the gas is distributed to the burners by its own gravity.

2. I claim a series of two or more pans or receptacles for oil, B B, so arranged one above another, within the case A, as to produce a large carburetting surface, and at the same time admit a current of air to pass automatically down over the surface of the oil in the pans, substantially as and in the manner set forth.

3. I claim the combination of the pipe F and case A, when so connected that the oil flowing over into the bottom of the carburetter will stop the passage of the gas into the pipe F, and thereby extinguish the lights before the oil will flow down said pipe.

4. I claim, in combination with inlet for air D, the pipe G, when arranged and operating substantially as and for the purpose set forth.

JOHN A. BASSETT

Witnesses:

M. B. MANSFIELD,
GEO. B. APPLETON.