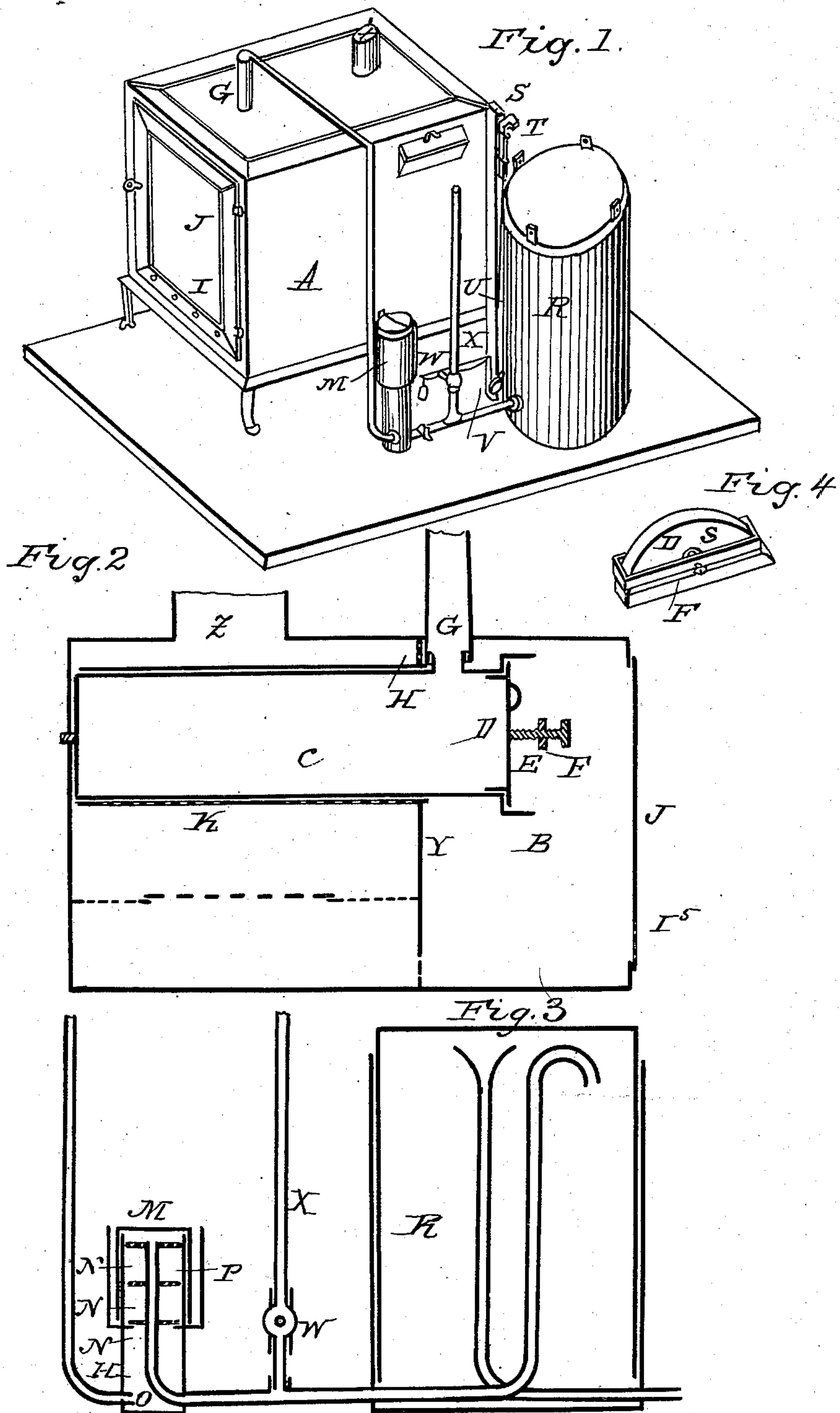


J. O. HALSEY.

Gas Retort.

No. 17,090.

Patented April 21, 1857.



UNITED STATES PATENT OFFICE.

JAMES O. HALSEY, OF ESSEX, NEW JERSEY.

PORTABLE APPARATUS FOR GENERATING ILLUMINATING-GAS.

Specification of Letters Patent No. 17,090, dated April 21, 1857.

To all whom it may concern:

Be it known that I, JAMES O. HALSEY, of the county of Essex, State of New Jersey, have invented a new and Improved Portable Gas-Generator; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which—

Figure 1 is a perspective and Figs. 2 and 3 are sectional views.

Similar letters of reference in the several figures denote the same parts of the apparatus.

The nature of my invention consists in combining an air chamber with a stove and retort for generating gas, for the purpose of allowing said retort to be charged while the fire is in operation, and for the purpose of carrying off the gas that escapes from the retort, and preventing its entering the room. Also in combining the condenser and clarifier into one vessel, and in the arrangement of a self regulating gasometer.

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

I construct my stove A of iron or other material, with an air chamber B. Near the top and lying horizontally in the stove A, I place my retort C, the end of which with its mouth projects into air chamber B, for the purpose of allowing it to be charged while the fire in the stove is in operation. The mouth of said retort has a stopper D, which is held in its place, by screw E, passing through clamp F. In the upper part of partition Y, are holes H^s, for the purpose of allowing the gas that may escape from the retort to pass into the stove and out of the flue Z. In the bottom of door J, I make perforations I^s, for the purpose of creating a draft, through said chamber B, which draft keeps cool the mouth of the retort, so that it can be opened, and also keeps cool the pipe G, and prevents the burning of the tar that accumulates in said

pipe and the consequent stopping of it up, around my retort, and within a short distance, I place a perforated shield or fire plate K, for the purpose of preventing the burning out of said retort, between which and the shield or fire plate K, there is sufficient space to allow the heated air to pass. From pipe G, the gas passes into the combined condenser and clarifier M, at its bottom, and through the water therein contained, up through the perforated plates N^s and the lime which is placed thereon, and thence through pipe P, into the gasometer R. Adjoining the gasometer is an upright S, to which is attached a catch T, said catch is connected by a cord U, and pulley V, to a cock W, in escape pipe X, which leads out of the house. When the gasometer is full or nearly so the bell O O rises and forces said catch to open the cock W, which allows the surplus gas to pass out of the house, thereby preventing any danger of an explosion, by combining the condenser and clarifier into one vessel.

It will be seen that I save space and expense. By placing a shield around the retort as described I prevent said retort from being burned out. The attaching of air chamber B, to the apparatus prevents the escape of gas into the room which is a great fault in all of the portable gas generators now in use, and allows the retort to be replenished without putting out the fire in the stove, which cannot be done with any other portable gas generator heretofore made.

What I claim as new and my own invention, and desire to secure by Letters Patent, is—

The air chamber B, constructed and operating as described to allow both the retort to be charged while the fire is in operation, and carry off the gas that escapes from said retort, and prevent its entering the room.

JAMES O. HALSEY.

Witnesses:

WM. McCONKEY,
E. C. MORGAN.