S. B. ELLITHORP.

Gas Retort.

No. 12,717. Patented Apr. 17, 1855.

Fig. 1.

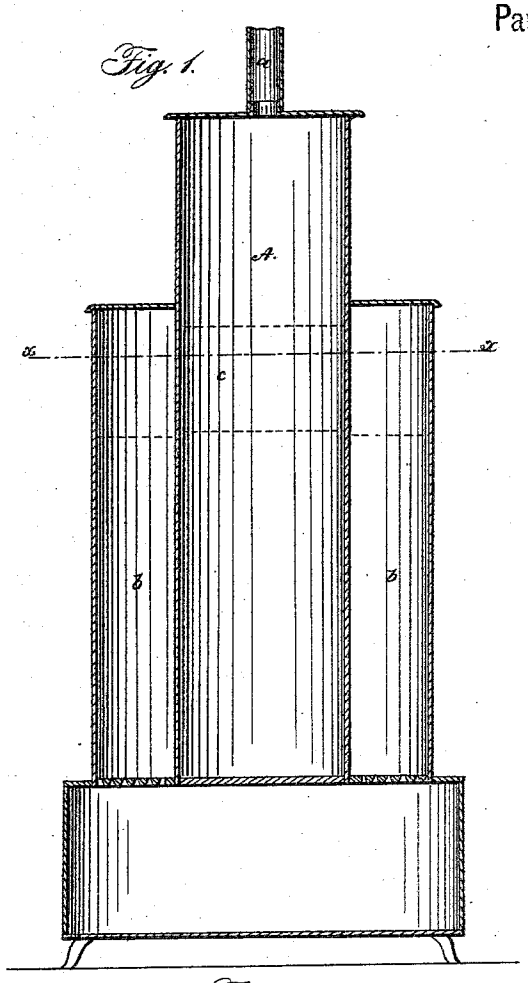
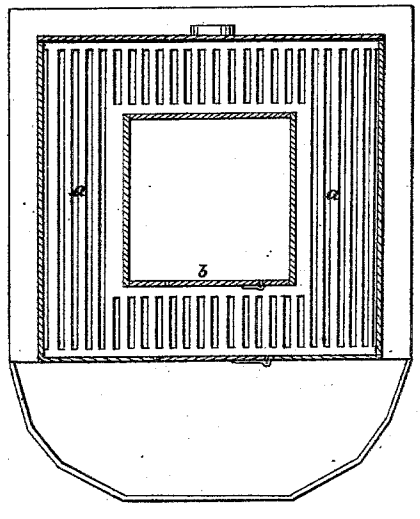


Fig. 2.



AM. PHOTO-LITHO.CO. N.Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

SOLOMON B. ELLITHORP, OF ELMIRA, NEW YORK.

PUTTING GAS-GENERATORS IN PARLOR-STOVES.

Specification of Letters Patent No. 12,717, dated April 17, 1855.

To all whom it may concern:

Be it known that I, SOLOMON B. ELLITHORP, of Elmira, in the county of Chemung and State of New York, have invented a new and useful Improvement in Machines for Manufacturing Gas from Coal, to be known and used as a "Portable Coal-Gas Generator;" and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

Figure 1 is a vertical section. Fig. 2 is a cross section passing through Fig. 1 at line *x*—*x*.

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 in any of the known forms, and combine therewith a retort arranged inside of the stove running down as far as the bottom of the stove; and above the top of the stove as seen in the drawings Fig. 1, letter A. The inner arrangements are as follows: The retort A, has a closed bottom hung on pivots, and constructed in a manner to prevent any draft passing through the retort, as seen in Fig. 2, letter B. At the top of the retort A is a pipe *a* of sufficient size to conduct the gas from the retort to a condenser, and a flexible tube or pipe from condenser to a clarifier and another tube or pipe from the clarifier to the gasometer. The stove surrounds the retort, the space *b* between the stove, and retort is for the coal for heating the room.

The stove is constructed with grate at bottom Fig. 1, *a*, and draft as in stoves now in use.

The process of making the gas is as follows: The retort is filled with coal at door *c*, Fig. 1, the door being closed; the fire is then kindled in the stove outside of the retort A, which fire heats the stove, and retort, and also warms the room. By heating the retort, and coal contained in it, the gas is extracted from the coal contained in the retort, the gas passing off through pipe *a* at the top of the retort, to condenser, &c., as already described. After the gas is extracted from the coal in retort, the bottom of retort is opened, and the coke is let out at bottom *b*, Fig. 2. Then the bottom is closed and retort again filled with coal as before. The coke is then put into the stove and burned, for the purpose of producing heat, to warm the room, and to extract the gas, instead of new coal being applied, for heating the stove, thereby saving fuel, and illuminating the room at the same time and at less expense.

I do not claim the stove, condenser, clarifier or gasometer, these being all well known old devices, but

What I claim as my invention and desire to secure by Letters Patent is, as follows:

I claim the combination of the coal stove, and retort, as already fully described, this combined making a portable coal gas generator, for the purposes set forth in this specification.

SOLOMON B. ELLITHORP.

Winesses:
T. S. SPAULDING,
E. VAN COPER.