H. Lerner.

Making Bromine.

No. 93,099. Patented Jul. 27, 1869

Fig: 1.

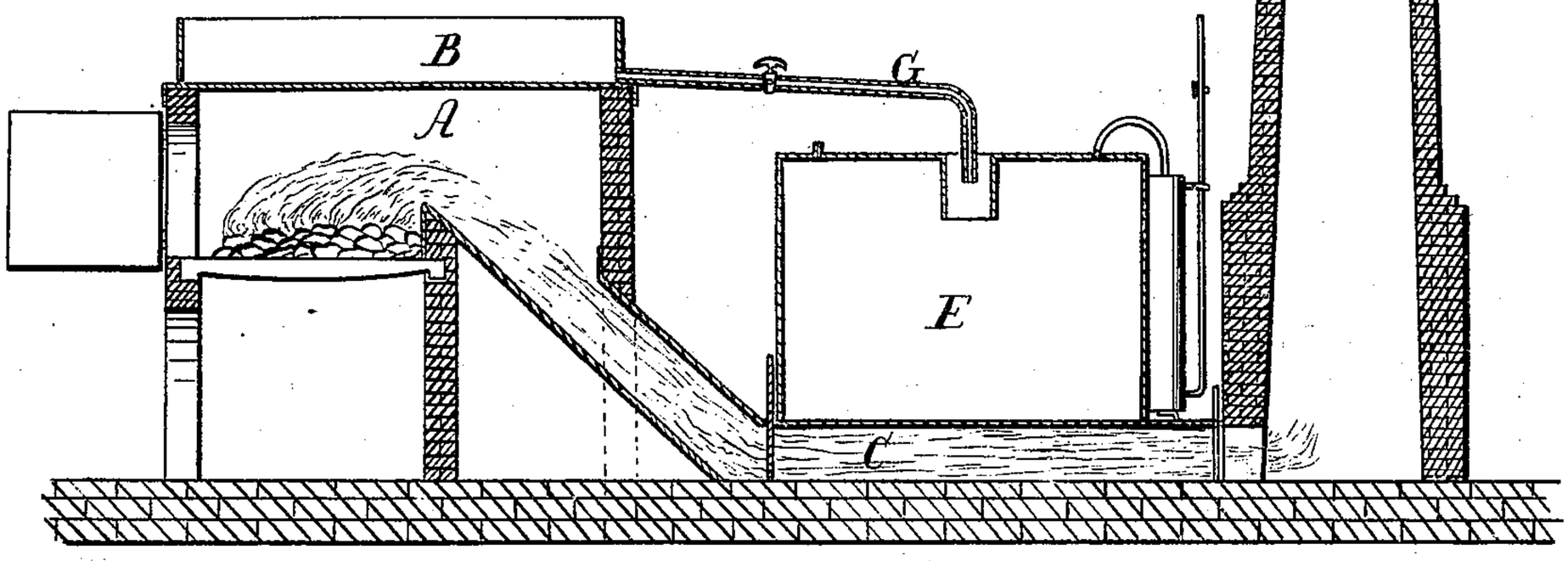
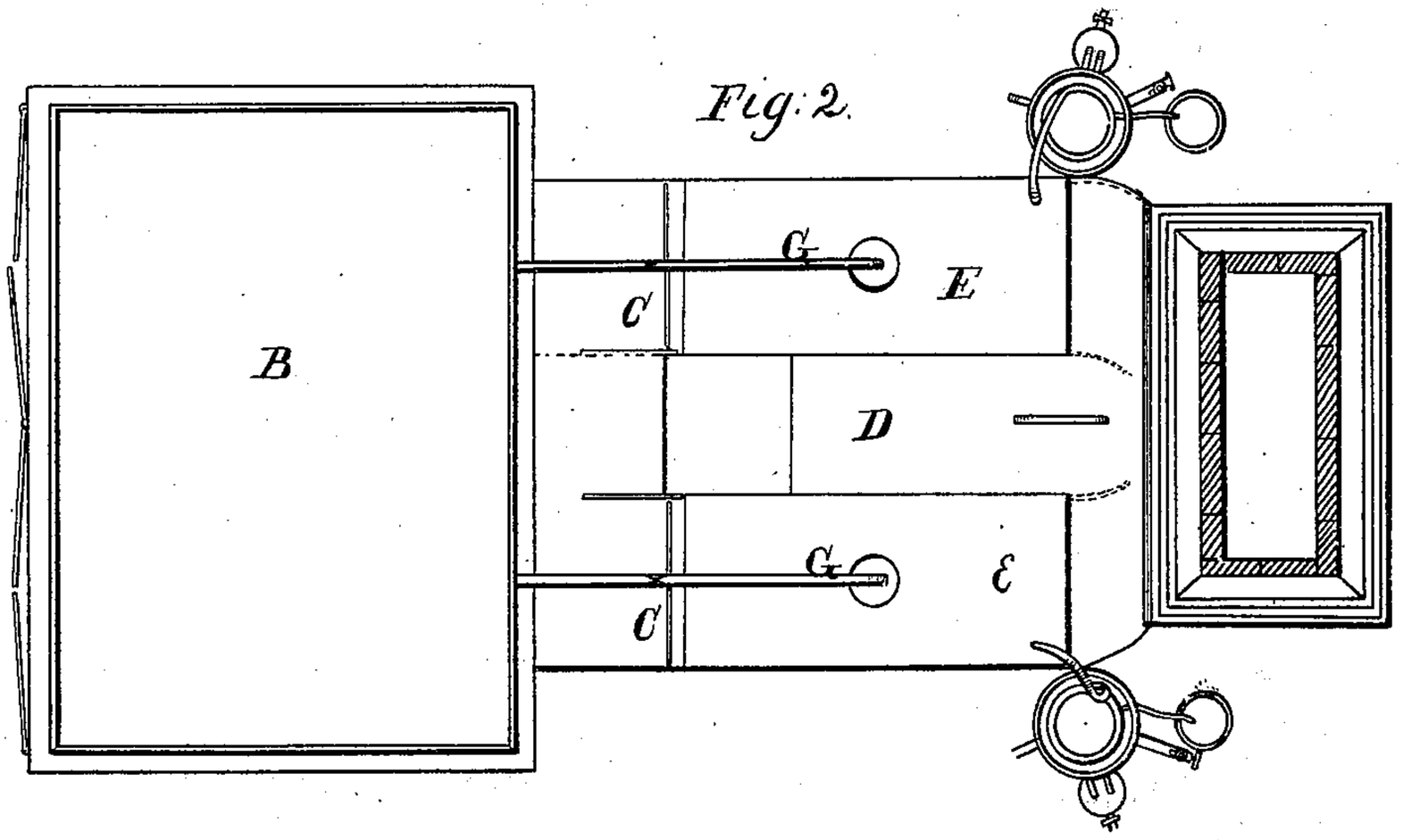


Fig: 2.



Witnesses;
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United States Patent Office.

HERMAN LERNER, OF POMEROY, OHIO, ASSIGNOR OF THREE-FOURTHS OF SAID INVENTION TO AUGUST MAYER, GEORGE BAUER, AND HENRY RECTANUS, OF SAME PLACE.

Letters Patent No. 93,099, *dated July* 27, 1869.

IMPROVED APPARATUS FOR MAKING BROMINE.

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, HERMAN LERNER, of Pomeroy, in the county of Meigs, and State of Ohio, have invented a new and improved Apparatus for the Manufacture of Bromine; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a longitudinal vertical section, and

Figure 2 is a plan view.

This invention relates to the common apparatus used for the distillation of bromine from the bitter or refuse water left after the manufacture of salt from the saline products of certain earth-wells, or from sea-water.

The invention consists in making the still, in which the process is carried on, of tile, and all in one piece, so that there shall be no evaporation of bromine, a thing impossible to prevent, if a still is used in which there is any joint.

The invention further consists in placing the still directly over or in contact with flues leading from the main furnace, so that there shall be but one fire both to boil the mother-water and furnish the heat necessary for distillation.

In the drawings—

A is the furnace;

B, the pan in which the bitter water is boiled; and

G G, the pipes for conducting the liquor from the pan B to the stills E E.

The arrangement of these parts I do not claim as new.

The stills E E are made of tile, and all in one piece. This mode of manufacture is original with myself. It is a great improvement upon the old style of still made with joints, as, however tightly such a still may be put together, it is impossible to prevent evaporation of the volatile bromine, when in a gaseous state, and such evaporation is both a waste of valuable property and deleterious to the health of the workmen; all which is avoided by the use of a still like mine, made without joints, in one piece, from which no gas can escape, save the very small quantity that finds its way through the necessary pipe-holes, which are to be found in all stills.

A further improvement in my apparatus is the arrangement of the flues C, C, and D, all three of which afford ready communication between the furnace and the chimney. The two flues C C pass directly under the two stills E E, and thus supply the heat required for purposes of distillation from the same fire that boils the mother-water in the pan B.

I do not know of any other mode of manufacture which does not require the use of two fires, one for the evaporating-pan, and the other for the stills. But the heat of the main furnace is amply sufficient for both these purposes, and I thus effect a considerable saving. The branch flue D runs between the stills, and, by means of dampers, the heat may be shut off from the stills when desired, and conducted straight to the chimney, without at all diminishing the fire under the evaporating-pan.

Having thus described my invention,

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

1. The use of tile for the material of a bromine-still.

2. Making a bromine-still of tile, all in one piece, without joints.

3. The arrangement of the stills E E, with the flues C C, D, by which the evaporating-pan and stills are heated by one fire, or the products of combustion may be conducted past the stills without heating them, substantially as and for the purpose described.

To the above specification of my improvement, I have set my hand, this 10th day of July, 1869.

HERMAN LERNER.

Witnesses:

CHAS. A. PETTIT,

SOLON C. KEMON.