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Patented Oct. 21, 1902.

A. ALONZO-CONSOLI.
RETORT FOR SUBLIMING SULFUR.

(Application filed Apr. 21, 1902.)

(No Model.)

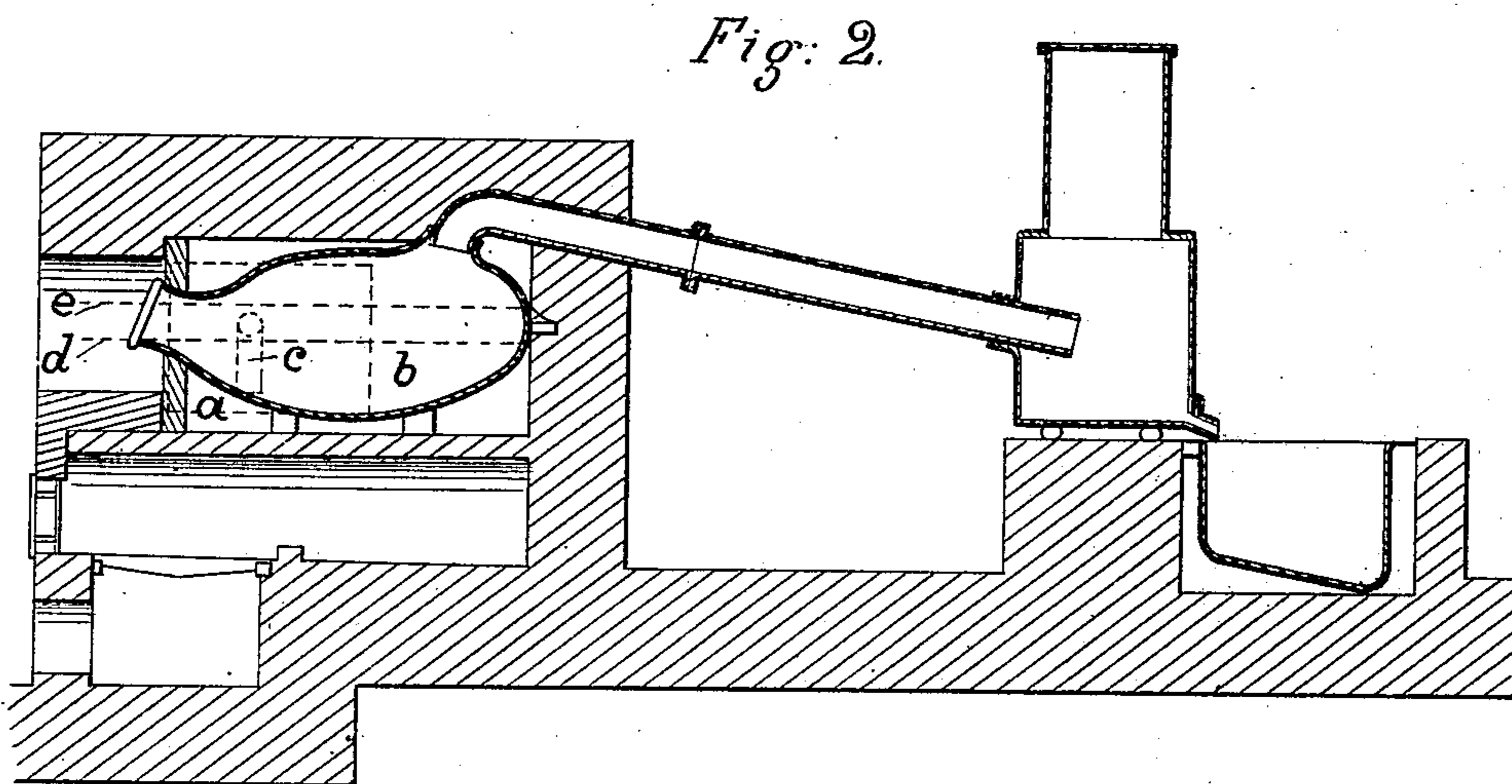
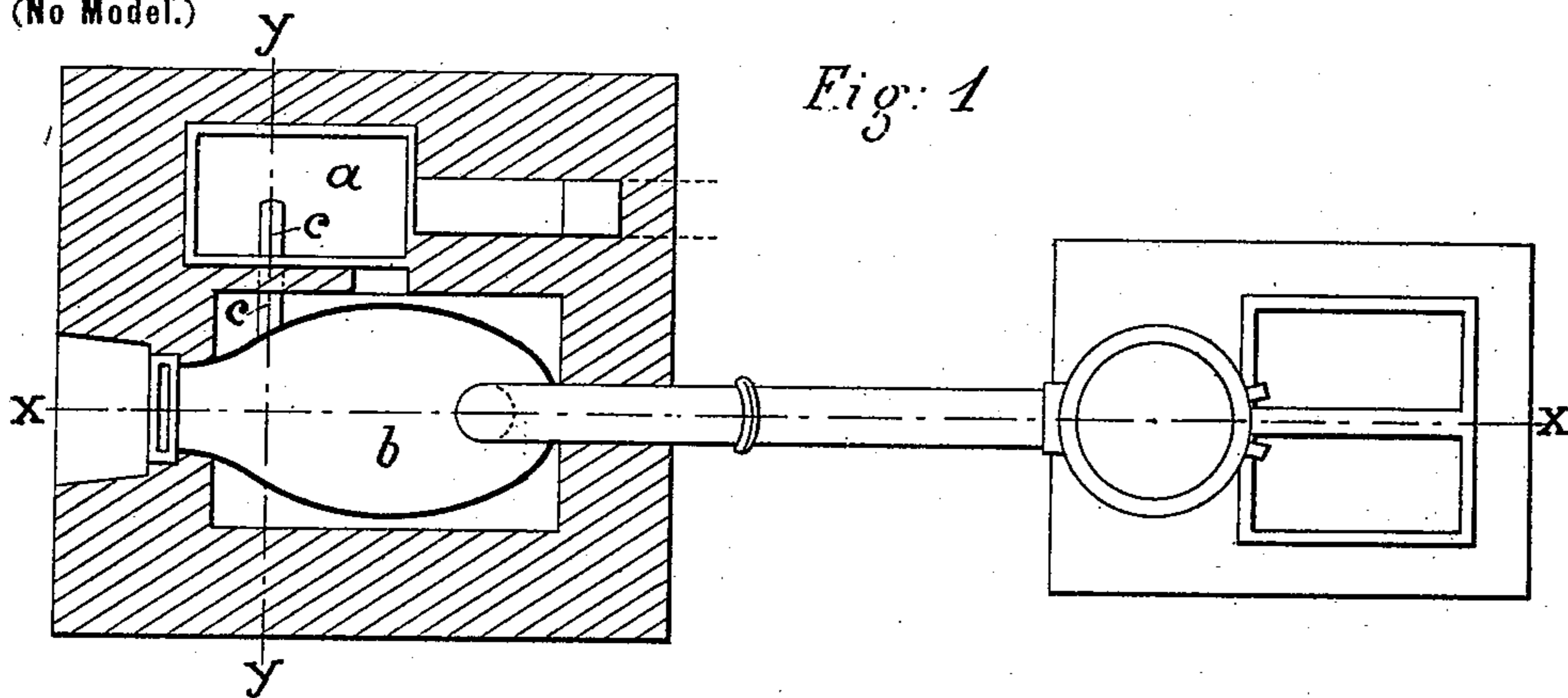
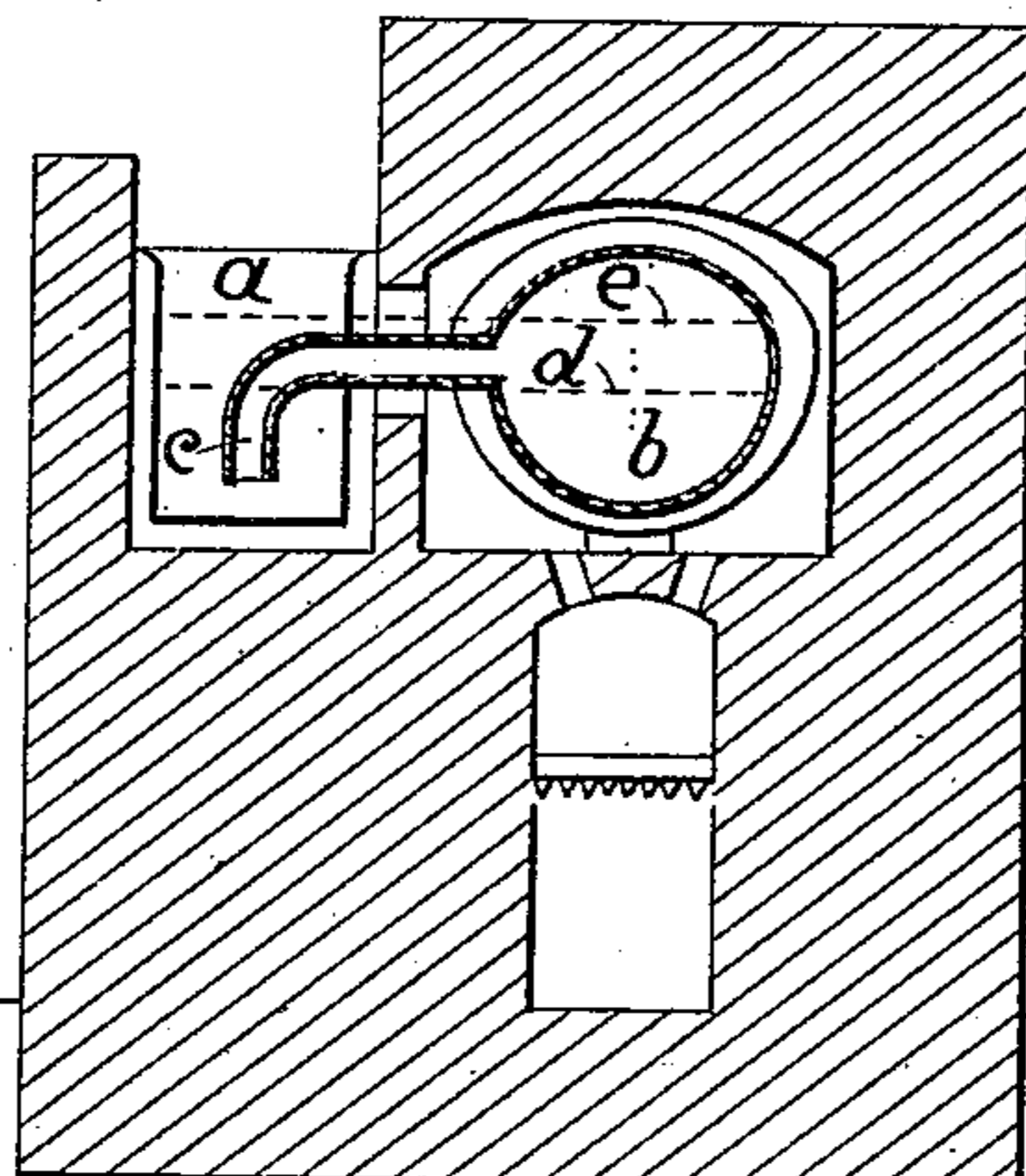


Fig: 3.



Witnesses:
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Attor

UNITED STATES PATENT OFFICE.

ALFREDO ALONZO-CONSOLI, OF CATANIA, ITALY.

RETORT FOR SUBLIMING SULFUR.

SPECIFICATION forming part of Letters Patent No. 711,811, dated October 21, 1902.

Application filed April 21, 1902. Serial No. 104,024. (No model.)

To all whom it may concern:

Be it known that I, ALFREDO ALONZO-CONSOLI, a subject of the King of Italy, residing at Catania, Italy, have invented a new and useful Improvement in Retorts for Subliming and Refining Sulfur; and I do hereby declare the following to be a full, clear, and exact description of the same.

This invention has for its object a new design of retort for refining and subliming sulfur which has on all the other retorts heretofore generally used the advantage of allowing a continuous work with a considerable economy of time and fuel.

The invention is illustrated by the accompanying drawings, and in order to better explain the modifications and the improvements of the new system as compared with the older method, Figure 1 shows a top view of the retort. Fig. 2 is a section taken on the line $x x$ of Fig. 1, and Fig. 3 is a section taken on the line $y y$ of Fig. 1.

In all the several views like parts are designated by the same letters of reference.

According to the system used up to the present the smelting vessel is placed above the retort, with which it communicates by means of a valved tube. The smelting vessel is charged with raw sulfur in pieces, and after this has been melted by the heat developed in the furnace the valve is opened and through it the molten sulfur flows in the second retort. The rapid introduction into the retort of a large mass of liquid sulfur the temperature of which is considerably inferior to that of the retort produces a cooling of the latter, and it requires a long time, nearly three hours heating in the ordinary cases, to bring it again to its previous temperature. The sublimation of the whole quantity of sulfur contained in a retort of ordinary size requires about six hours, so that of a working day of twenty-four hours only sixteen hours of actual labor may be utilized, while during eight hours the retort remains inactive, causing a considerable waste of fuel. The new retort avoids all these inconveniences.

As will be seen in the drawings, the smelting vessel a is placed side by side with a retort b , with which it communicates by means of a bent tube c . The vessel a is charged with raw sulfur in pieces, which after melting passes through the tube c into the retort a as soon as it reaches the level f . It is therefore sufficient to keep the melted sulfur at the level $g g$ in the vessel a for maintaining the liquid at the same level in the retort b , wherein the melted sulfur coming from c substitutes continuously the vaporized sulfur. In order to obtain a continuous and uninterrupted feeding, it is only necessary that the raw sulfur be supplied to the vessel a as the melted sulfur descends, so as to avoid its lowering below $f f$.

It is nearly superfluous to remark that the smelting vessel as well as the retort may be of any form and that their position may also be different. The characteristic features of the invention consist in the disposition of two vessels in communication, so as to keep constantly in the one the same level as in the other.

I claim—

1. In a retort for refining and subliming sulfur, the combination with a melting vessel, of a sublimation-retort upon the same horizontal plane therewith, and a communicating tube, the extremity of which within the melting vessel is below the level of the liquid therein, substantially as described.

2. In a retort for subliming and refining sulfur, the combination with a melting vessel a , of a sublimation-retort b upon the same horizontal plane therewith, and a communicating tube c , the extremity of which within the melting vessel is bent and below the level of the liquid therein, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ALFREDO ALONZO-CONSOLI.

Witnesses:

C. NUSSBAUM TERRY,
MARIO SOZZIE.