

H. S. HANNEN.
 Manufacture of White Lead.

No. 80,168.

Patented July 21, 1868.

Fig. 1.

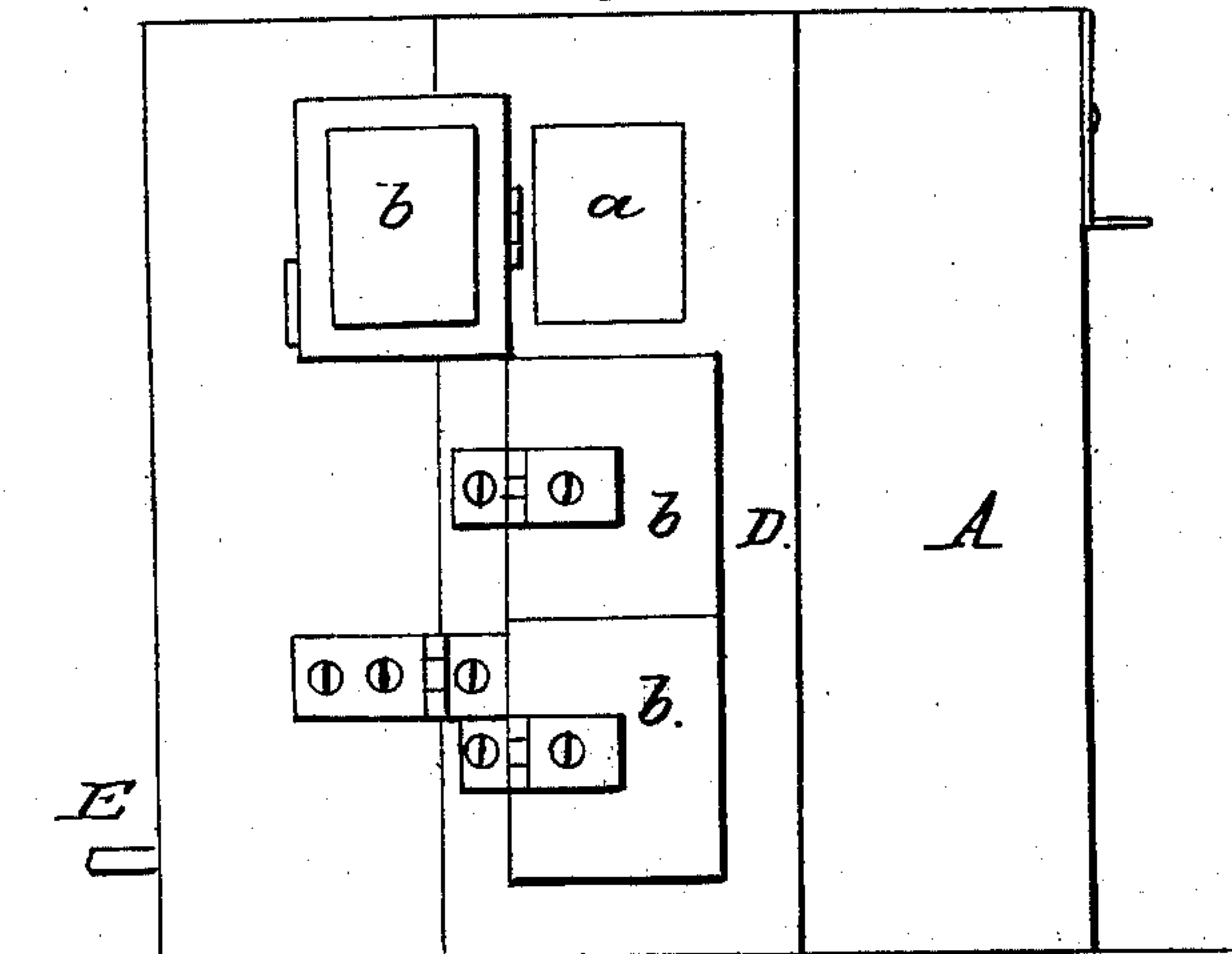
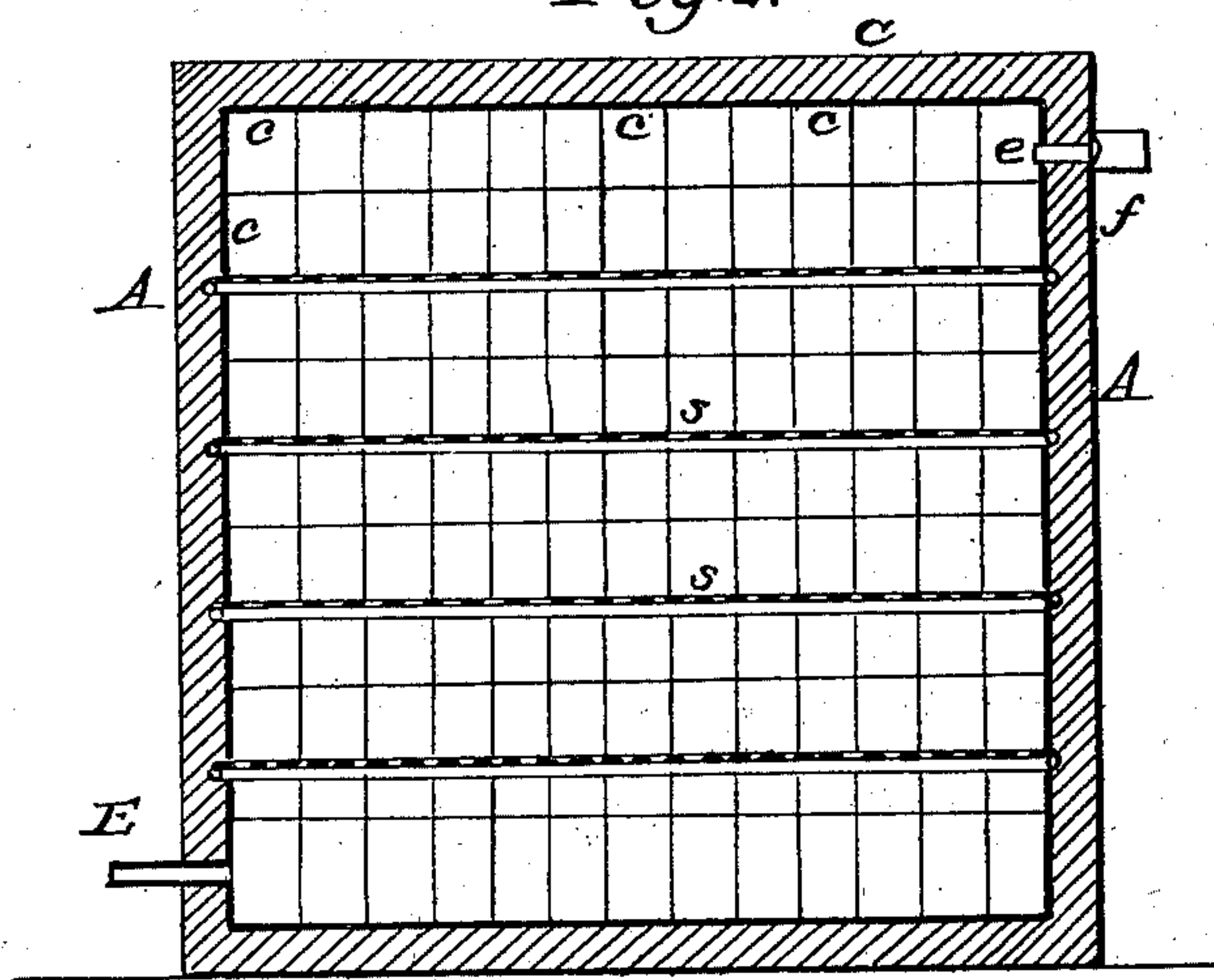


Fig. 2.



WITNESSES.
Wm. Albert Hall.
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United States Patent Office.

HENRY S. HANNEN, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 80,168, dated July 21, 1868.

IMPROVEMENT IN THE MANUFACTURE OF WHITE LEAD.

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, HENRY S. HANNEN, of Philadelphia, Pennsylvania, have invented an Improvement in the Manufacture of Carbonate of Lead; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention consists in subjecting metallic lead, while in a close chamber, and after it has been acted on by acetic acid, to the action of carbonic-acid gas, heated before its introduction into the chamber, so that the inconveniences resulting from the use of heating-coils within the chamber are avoided, while the gas is brought more intimately in contact with the lead.

My invention further consists in the use of solutions of chloride and carbonate of soda, as described hereafter, for facilitating the carbonating of the lead, and improving the quality of the product.

In order to enable others skilled in the art to practise my invention, I will now proceed to describe the manner of carrying it into effect, reference being had to the accompanying drawing, which forms a part of this specification, and in which—

Figure 1 is a front elevation of an apparatus which may be used for carrying out my improvements in the manufacture of carbonate of lead, and

Figure 2 is a sectional elevation.

A A are the walls, C is the top, and B the bottom of a case or chamber, at one side of which is a door, D, equal in height to that of the chamber, and in the said door are openings *a*, to each of which is fitted a cover, *b*, hinged to the door.

The interior of the case, as well as the inner sides of the door D and covers *b b*, are lined with slate, or are coated with a composition which will not be affected by the materials introduced into the chamber, and across the chamber extends a series of perforated plates, *s s*.

With the lower part of the chamber, at one side of the same, and with the flue of a fireplace, in which coke or coal is burned, communicates a pipe, E, and at the opposite side of the chamber, near the top, is an opening, *e*, to which is fitted a valve or damper.

Metallic lead, in the form of scraps or flakes, is placed upon the plates *s s*, and is sprinkled with a liquor, consisting of acetic acid and water, in the proportion of one gallon of acetic acid to every twenty gallons of water, the acid in the liquor combining with the lead, and producing acetate of lead.

The chamber is now closed, and carbonic-acid gas, at a temperature of about 130° Fahrenheit, is passed through the tube E into the chamber, where it combines with the acetate of lead, producing carbonate of lead.

At any time during the above-described operation, a solution of chloride of soda is sprinkled over the lead, and after this the lead is sprinkled with a solution of carbonate of soda, care being taken to so proportion the quantity of soda, that no excess of the same may remain with the lead, to saponify the oil with which the carbonate of lead is afterwards ground.

When the outer surface of the lead has become thoroughly carbonated, the lead is again sprinkled with a mixture of water and acetic acid, containing a greater proportion of acid than the liquor first employed; after which the solutions of soda are thrown on to the lead, as before, the said solutions aiding in the carbonating of the lead, and also improving the quality of the product.

The different liquors thrown on to the lead should not be of a lower temperature than 120° Fahrenheit, and they may be readily deposited on the lead from a pipe terminating in a rose, which is introduced into the chamber through the openings *a*.

Inasmuch as the carbonic-acid gas is heated before it is introduced into the chamber, and as it passes into the latter near the bottom, it will be brought into much more intimate contact with the lead than if it were introduced hot into a heated chamber at the top, where it would collect, while the use of heating-tubes, which render the chamber difficult to clean, is avoided.

I claim as my invention, and desire to secure by Letters Patent—

1. Subjecting metallic lead, after it has been treated in a chamber with acetic acid, to the action of carbonic acid gas, introduced near the bottom of the chamber, and at such a temperature that the proper degree of heat is maintained within the chamber without the use of heating-apparatus.

2. Subjecting metallic lead, during the process of its conversion into carbonate of lead, to the action of solutions of chloride of soda and carbonate of soda, substantially as and for the purpose described.

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

Witnesses:

CHARLES E. FOSTER,
W. J. R. DELANY.

H. S. HANNEN.