

Perrin & Saunders.

Concentrating Sulphuric Acid

No 78,760.

Patented June 9, 1868.

Fig. 1

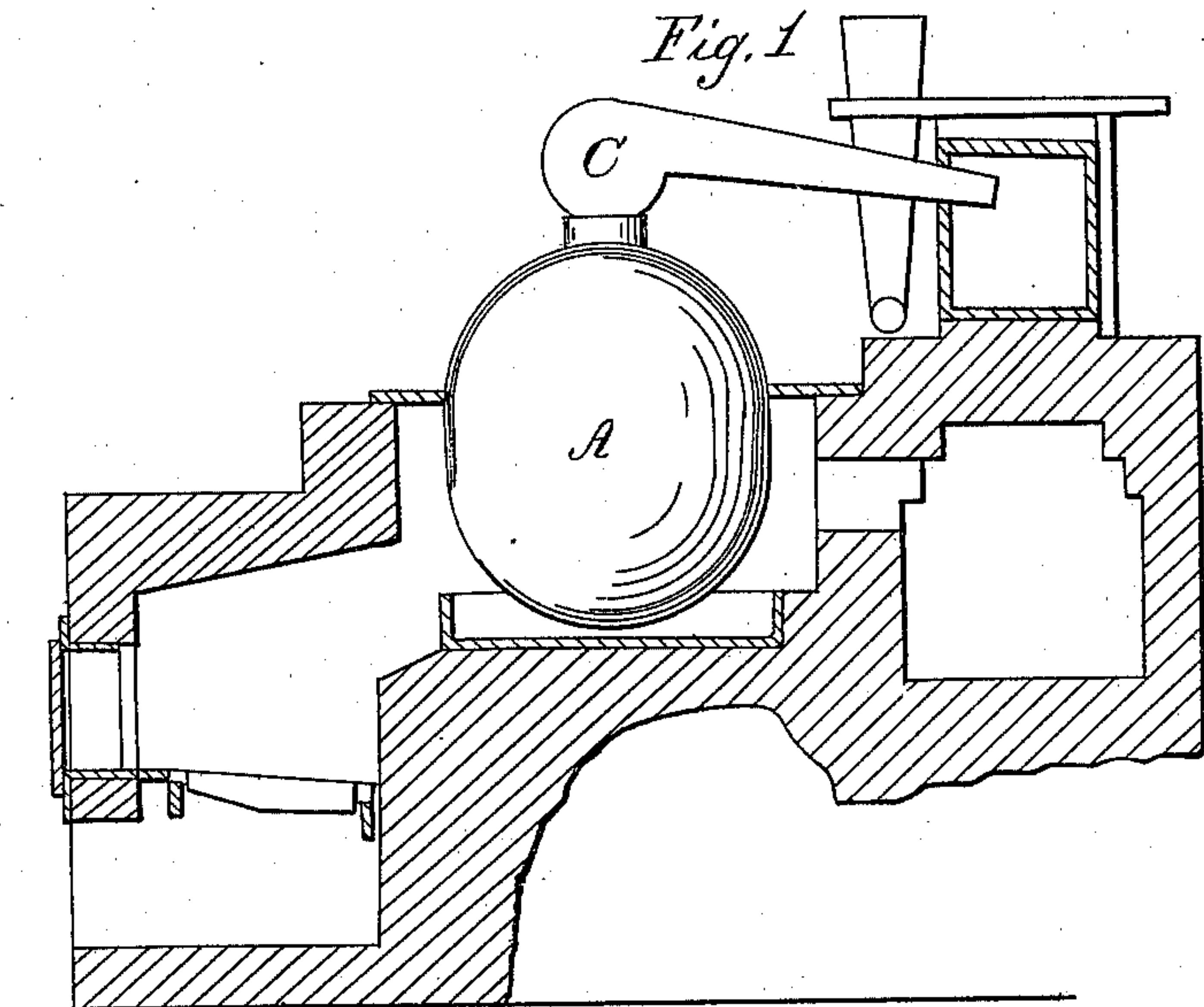
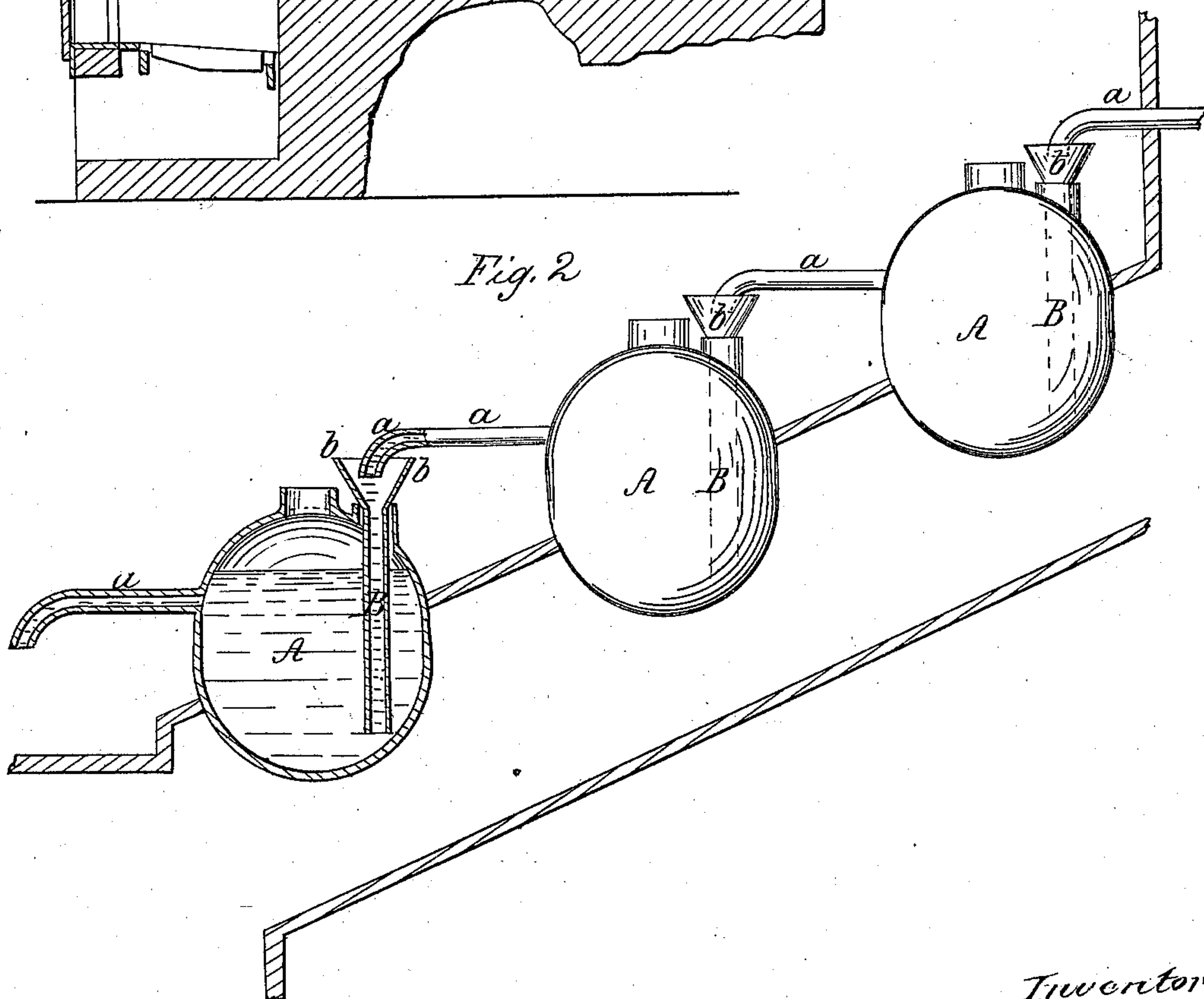


Fig. 2



Witnesses
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United States Patent Office.

J. D. PERRIN AND JOSEPH SAUNDERS, OF BROOKLYN, NEW YORK.

Letters Patent No. 78,760, dated June 9, 1868.

IMPROVEMENT IN RETORTS FOR CONCENTRATING SULPHURIC ACID.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, J. D. PERRIN and JOSEPH SAUNDERS, of Brooklyn, in the county of Kings, and State of New York, have invented a new and useful Improvement in Retorts; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 represents an end elevation of our invention.

Figure 2 is an elevation, partly in section, of the same.

Similar letters of reference indicate like parts.

This invention relates to a new manner of arranging retorts for concentrating sulphuric acid, and for other purposes, so that circulation of the liquid to be concentrated or evaporated may be produced in a series of retorts at once, the liquid flowing from one retort to the other.

Heretofore, retorts were only used separately, that is, the matter in each retort was treated in that retort, and, when finished, was discharged therefrom.

Communication between a series of retorts, to allow the passage of the liquid from one to the other, has heretofore never been established.

Our invention consists in arranging a spout or pipe at the upper part of each retort, through which the liquid can overflow into the next retort, the spout leading it into a funnel formed at the upper end of a pipe, which extends nearly to the bottom of the next retort.

In this manner the liquid is taken from the top of one retort to the bottom of the other, and constant circulation is thus produced.

A, in the drawing, represents a glass or other retort, made of suitable size and shape.

A series of such retorts is intended to be set up in a furnace, upon an inclined plane or otherwise, so that they stand lower toward one of the furnaces.

On the upper part of each retort is arranged a projecting pipe or spout, *a*, as shown.

B is a pipe inserted through a perforation in the upper part of each retort, vertically into the same, so as nearly to reach with its lower end to the bottom of the retort, as shown in fig. 2.

On the upper end of the pipe B is formed a funnel, *b*, which is on the outside of the retort, as shown.

The end of the pipe or spout *a* of one retort leads to the funnel *b* of the next lower retort, as shown, and thus a passage, *a b*, is provided between every two adjacent retorts, through which the liquid is carried from the top of the upper retort to the bottom of the lower one, and complete circulation of the contents of the various retorts is thus produced.

The vapors from the various retorts are, through the necks C, carried to suitable condensing-chambers, as indicated in fig. 1.

The funnels *b* may, if desired, be omitted if the ends of the pipes *a* are small enough to fit into B.

Having thus described our invention, we claim as new, and desire to secure by Letters Patent—

Providing a retort with a projecting pipe or spout, *a*, and with a pipe, B, substantially as described, so that communication between various retorts can be established, as herein specified.

J. D. PERRIN,
JOSEPH SAUNDERS.

Witnesses:

WM. F. McNAMARA,
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