

F. O. MATTHIESSEN.

Retorts for Burning or Revivifying Charcoal.

No. 161,253.

Patented March 23, 1875.

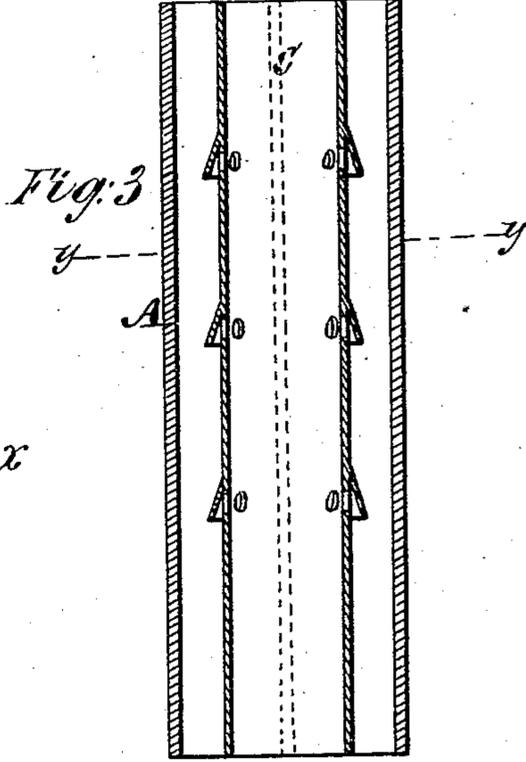
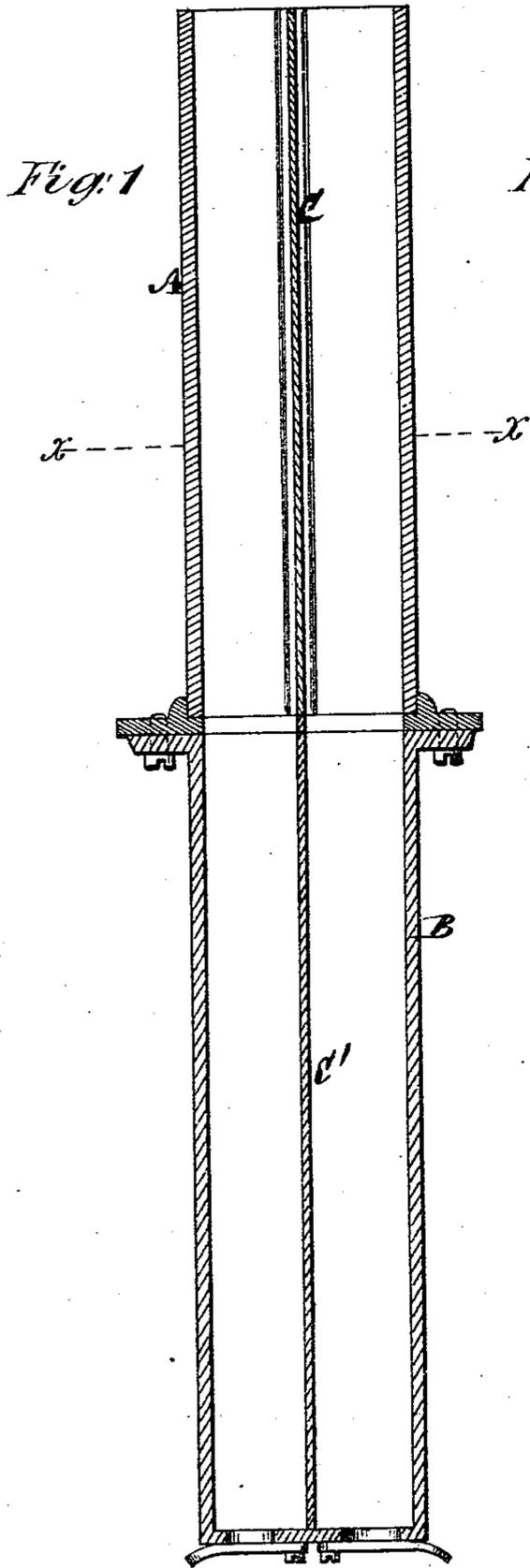
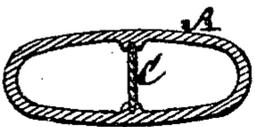


Fig. 2



Witnesses:

Michael Ryan
Fred. Haynes

F. O. Matthiessen
by his Attorney
Rowntree & Allen

UNITED STATES PATENT OFFICE.

FRANZ O. MATTHIESSEN, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN RETORTS FOR BURNING OR REVIVIFYING CHARCOAL.

Specification forming part of Letters Patent No. **161,253**, dated March 23, 1875; application filed February 12, 1875.

To all whom it may concern:

Be it known that I, FRANZ O. MATTHIESSEN, of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Retorts for Burning or Revivifying Charcoal; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing forming a part of this specification, and in which—

Figure 1 represents a sectional elevation of an ordinary charcoal-retort with attached cooler, and having my invention applied to it. Fig. 2 is a horizontal section of the same on the line *xx*. Fig. 3 is a sectional elevation of an inner flue-retort having my invention applied to it, and Fig. 4 a horizontal section of the same on the line *yy*.

This invention relates to retorts for burning or revivifying animal charcoal; and consists in a combination with the retort of one or more upright or longitudinal partitions in transverse relation to the course of the flame or heated gases on the outsides of the retort, whereby the more equal or perfect heating of the whole mass of charcoal in the retort is effected, time in burning a given amount of charcoal is economized, and the front portion of the retort is made capable of doing more work.

Referring, in the first instance, to Figs. 1 and 2 of the drawing, A represents a vertical retort, of an ordinary oblong or oval construction, for outside exposure to the flame or heated gases, with its one edge or narrow surface foremost, as usual; and B is a cooler, into which the charcoal, after it has been burned in the retort, is deposited, and from which it is drawn off, as required, through the bottom. C is a partition, of which there may be one or more, and which may either be fixed or removable, arranged transversely of the retort throughout its length, and forming on either side of it compartments for the charcoal, the one in rear of the other, relatively to the course of the flame or heated gases through the furnace, which contains the retort or any number of retorts.

The cooler B may be similarly divided by one or more partitions, C', or separate coolers may be used for each compartment of the retort.

In Figs. 3 and 4 of the drawings, a retort, A, is shown of similar outside contour to the retort illustrated in the previous figures, and which is designed to be exposed externally to the fire, as in the case of the retort shown in Figs. 1 and 2, but which, as in the patent of James Buchanan and Samuel Vickess, issued May 12, 1874, is provided with an internal perforated tube or flue with flange-hoods, to provide for an inner as well as exterior heating of the charcoal within the retort. Such retort, however, is provided throughout its length with one or more transverse partitions, C, to form front and rear compartments relatively to the course of the fire, as in Figs. 1 and 2 of the drawing.

In such retorts, without one or more partitions, C, the fire, striking externally the advance edge or surface of the retort, heats such portion, and charcoal in proximity thereto, quicker than the rear portion of the retort, and charcoal in proximity thereto, thus either insufficiently burning the charcoal in the latter, or excessively burning the charcoal in the advance portion of the retort. This is avoided by the use of one or more partitions, C, as described, and the loss of time consequent upon keeping the charcoal in the front portion of the retort longer than necessary, to insure the charcoal in the after portion of the retort being sufficiently burned before drawing off the whole charge of the retort, is done away with, and the front portion of the retort made to do more work, inasmuch as, when the charcoal is sufficiently burned in the front portion of the retort or advance compartment or compartments thereof, it may be drawn off and such space or spaces be recharged before drawing off the charcoal from the after portion or compartment or compartments of the retort.

I claim—

The combination, with the retort, of one or more upright or longitudinal partitions, arranged in transverse relation to the course of the flame or heated gases on the exterior of the retort, substantially as and for the purposes herein set forth.

F. O. MATTHIESSEN.

Witnesses:

HENRY T. BROWN,
MICHAEL RYAN.