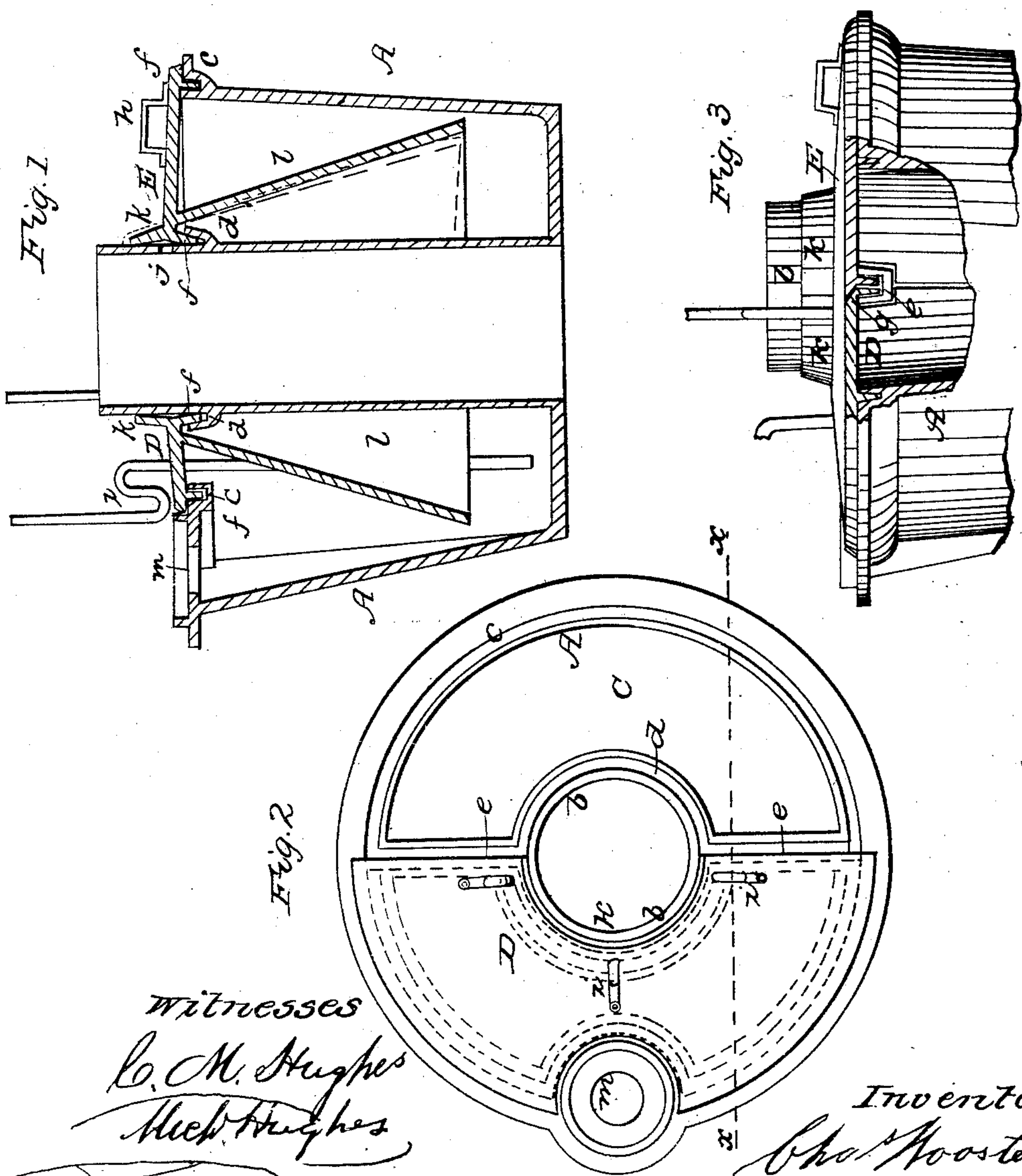


C. WOOSTER.

Gas Retort.

No. 28,431.

Patented May 22, 1860.



Witnesses  
 L. M. Hughes  
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# UNITED STATES PATENT OFFICE.

CHARLES WOOSTER, OF NEW YORK, N. Y.

## GAS-RETORT.

Specification of Letters Patent No. 28,431, dated May 22, 1860.

*To all whom it may concern:*

Be it known that I, CHARLES WOOSTER, of the city, county, and State of New York, have invented certain new and useful Improvements in Gas-Retorts; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1, is a central vertical section of a retort with my improvement. Fig. 2 is a plan of the same with one half of the cover removed. Fig. 3, is a vertical section of the upper part of the retort in the plane indicated by the line *x, x*, in Fig. 2.

Similar letters of reference indicate corresponding parts in several figures.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

A, is the body of the retort cast with a central flue or chimney base *b, b*. The external portion of the retort is of the form of an inverted frustum of a cone. The flue or chimney base is represented as cylindrical but may have an upward taper. The bottom is represented as flat but may be concave internally and curved externally. A continuous channel *c*, is provided around the exterior, another, *d*, around the chimney base, and two others *e, e*, radiating in opposite directions from the channel *d*, and connecting it with the channel *c*, such channels to contain fusible metal to make the joint around the cover.

*m*, is the opening for the main pipe outside of the channel *c*.

D, and E, are the two halves of the annular cover made with downward projections *f, f*, all around them to enter the fusible metal in the channels *c, d, e, e*, and with an upward projection *h*, around the inner margin to fit snugly around the upper part of the flue or chimney base. The part E, is made with a flange *g*, is shown in Fig. 3, to lap over the part D, and furnished with a handle *h*, to raise it, but a gas tight joint is made between the two parts of the cover by the fusible metal in the channels *e, e*.

*i, i*, are siphon pipes for feeding the retort, attached to the cover. *j*, (Fig. 1), is the opening in the flue or chimney base for

establishing communication from the retort to the chimney when it is desired to burn out the residuary carbon from the retort said opening being arranged above the channel *d*, but low enough to be closed by the upward projection *h*, when the cover is shut down.

*l, l*, is a cone half of which is cast with the part D, of the cover and half with the part E, said cone being situated between the outer portion of the body A, and the flue or chimney base *b, b*, and extending nearly to the bottom thereof. This cone becoming red hot when the retort is in operation presents an extensive heating surface in addition to that presented by the outer portion of the body A, and the flue *b, b*, to decompose the vapors which are generated from the oil or other fluid matter dropping into the bottom of the retort and convert them into permanent gas. The retort is intended to stand in a stove in which the whole of the bottom and sides will be exposed to the radiant heat of the fire as well as to the contact of the flames and hot gaseous products of combustion the only escape for which is by the central flue *b, b*.

To burn out the retort it is only necessary to raise the half C, of the cover as shown in red outline in Fig. 1, high enough to establish communication between the opening *j*, and the retort, while the latter is kept hot by a good fire. The air then admitted under the edges of the cover serves to inflame the residuary carbon and the draft of the chimney causes the escape of the products of combustion through the opening *j*, into the flue *b, b*.

I do not claim the use of a fusible metal joint to seal the cover of a retort; nor do I claim providing a communication between the retort and chimney for the purpose of burning out the residuary carbon; but

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

The employment of the central flue *b, b*, in combination with the body or shell A, substantially as and for the purpose herein shown and described.

CHAS. WOOSTER.

Witnesses:

C. M. HUGHES,  
MICH HUGHES.