J. D. PATTON.

Gas-Retorts.

No. 139,605. Patented June 3, 1873.

Fig: 1.

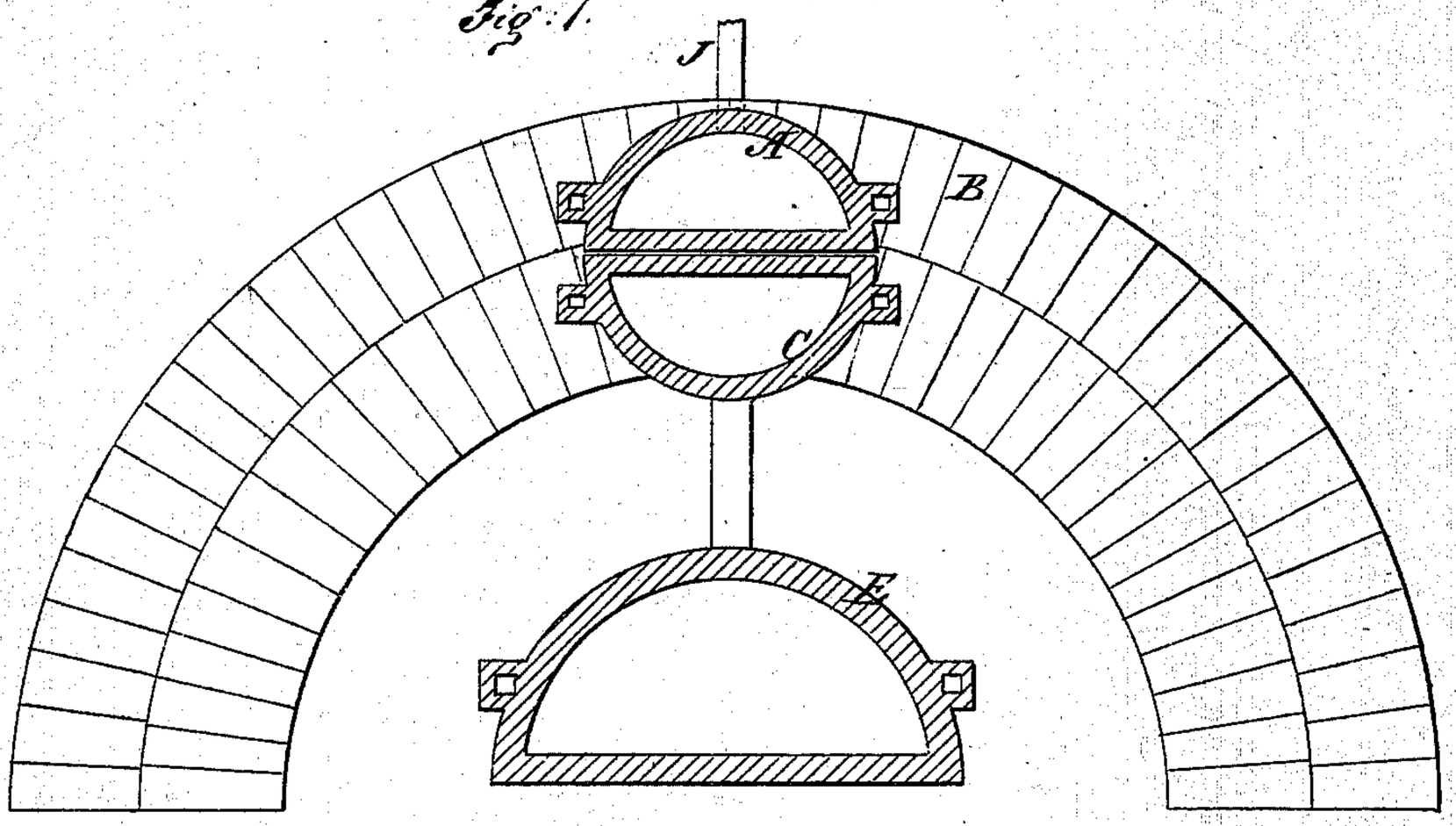
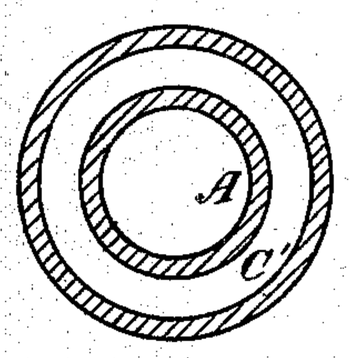


Fig: 2

Fig: 3



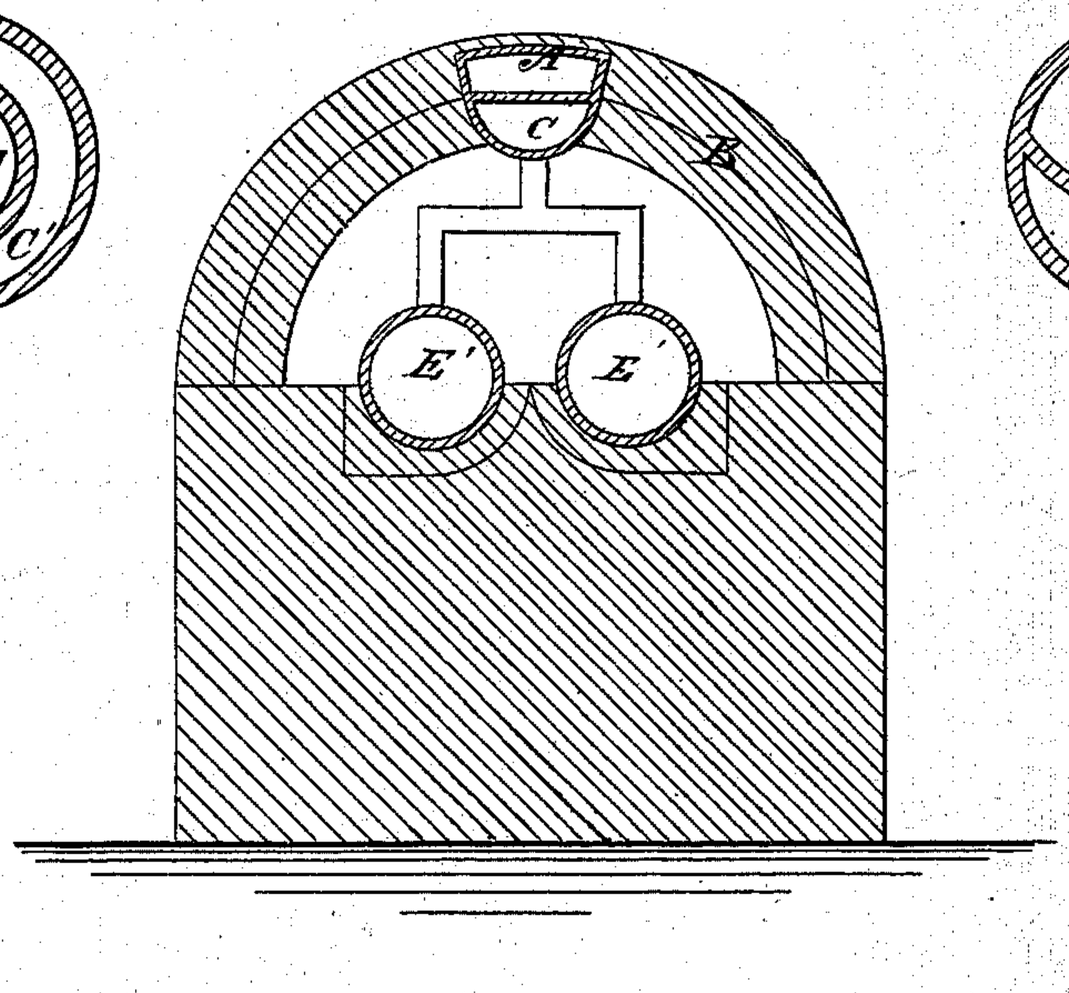
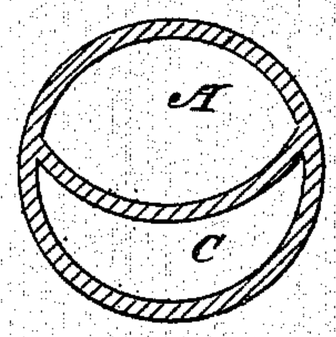


Fig: 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOSEPH D. PATTON, OF TREVORTON, PENNSYLVANIA.

IMPROVEMENT IN GAS-RETORTS.

Specification forming part of Letters Patent No. **139,605**, dated June 3, 1873; application filed April 26, 1873.

To all whom it may concern:

Be it known that I, JOSEPH DESHA PATTON, of Trevorton, in the county of Northumberland and State of Pennsylvania, have invented a new and useful Improvement in Gas-Retorts, of which the following is a specification:

My invention consists of a retort protected from direct contact of heat by the brick-work in which it is set, or partly by the same and partly by another retort, in combination with one or more retorts wholly exposed to the heat of the furnace, for gradually heating the substance of which the gas is to be made; the object being to provide an arrangement whereby resin or volatile oil can be successfully treated, which they cannot be in the ordinary retorts, in which they are subjected, from the beginning, to the intense heat of retorts directly exposed to the heat and sufficiently hot to convert them into fixed gas.

Figure 1 is a sectional elevation of a furnace and retorts, showing one way of arranging the retorts according to my improvement. Fig. 2 is a sectional elevation of another arrangement; and Figs. 3 and 4 are sections of retorts, showing different forms adapted for my purposes.

Similar letters of reference indicate corresponding parts.

In Fig. 1, A represents an upper retort of semicircular form, in cross-section, embedded in the masonry B, and resting on an inverted retort, C, of similar form, partly embedded in the masonry, but exposed by a narrow strip along the under side. E is a larger retort of the same form, arranged so as to be wholly exposed to the heat. In Fig. 2 the retorts A C are constructed in one and differ a little in form, and two cylinders, E′, are employed in place of the large half-cylinder E. In Fig. 3 the inclosed cylinder A′ is represented in an arrangement equivalent to Figs. 1 and 2, the outer cylinder C′ answering to the retort C and the inclosing brick-work. Fig. 4 is the same as Fig. 2, except a slight modification in the form of the device. Any other equivalent arrangement will serve the purpose which I seek, which is to gradually heat the gas-yielding substance when resin or volatile oils are used, which are subject to great waste on being cast or injected directly in a retort sufficiently hot to convert them into fixed gas. The arrangement is such that the oil or resin being supplied to the protected retort A or A′ through pipe J will, after passing the whole length of said protected retort, be delivered into the partly-protected retort C or C′, and thence it will go into the retort or retorts wholly exposed to heat, where the process will be completed, and the gas will be expelled to the holder through any suitable pipe-connection.

The arrangement may also be used with good results for making gas from coal, suitable contrivances being used to shift the charge along from time to time. In that case pipe J will not be required.

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

A retort or retorts for gas-making purposes, protected wholly or in part from the direct heat of the furnace, in combination with one or more retorts wholly exposed to the heat, the said protected retorts being wholly or partly inclosed by the masonry, or partly by the same and partly by other retorts which are partly inclosed by the masonry, all substantially as specified.

JOSEPH DESHA PATTON.

Witnesses:
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