

J. McA. GALLACHER.

Gas Retort.

No. 32,219.

Patented April. 30, 1861.

Fig. 1.

x

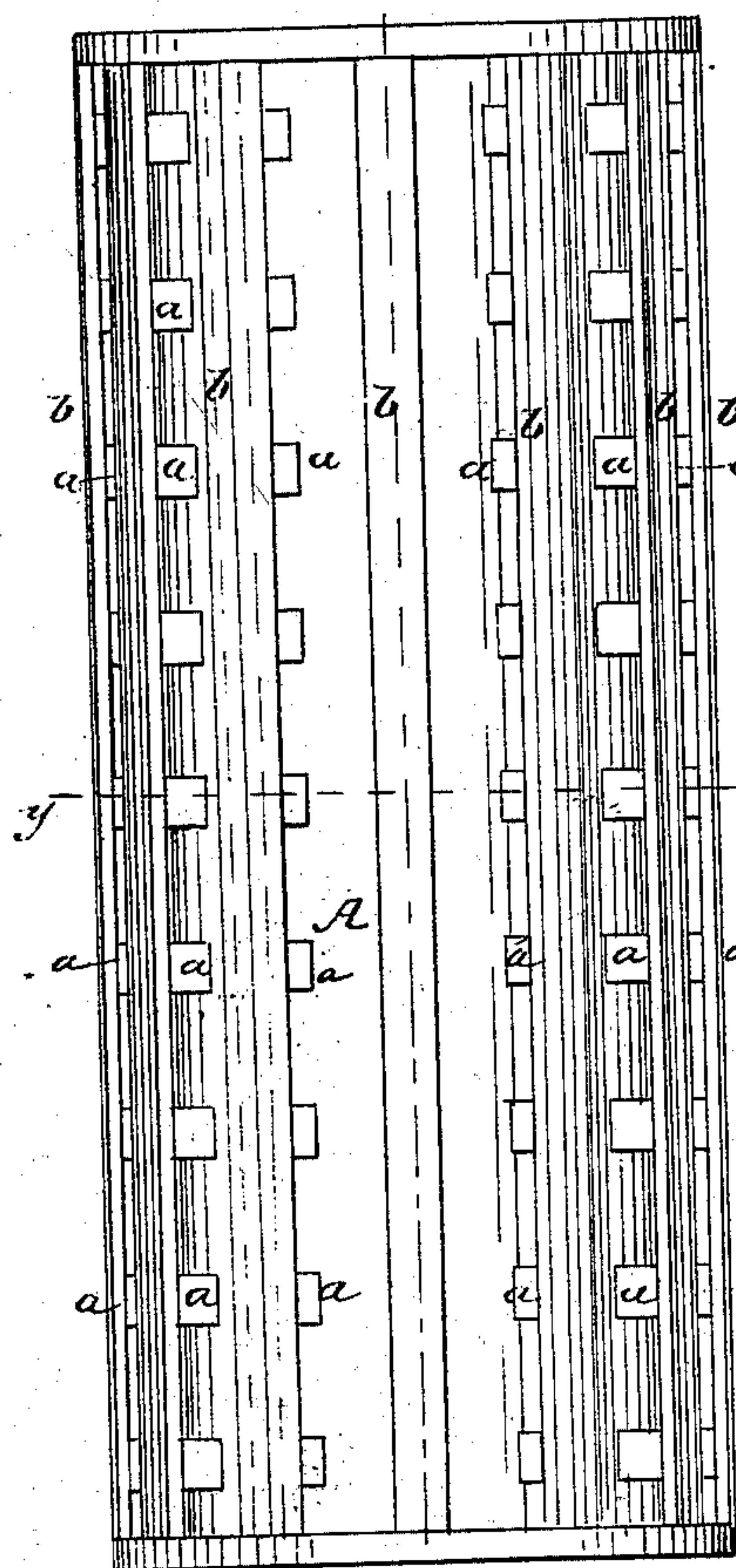


Fig. 2.

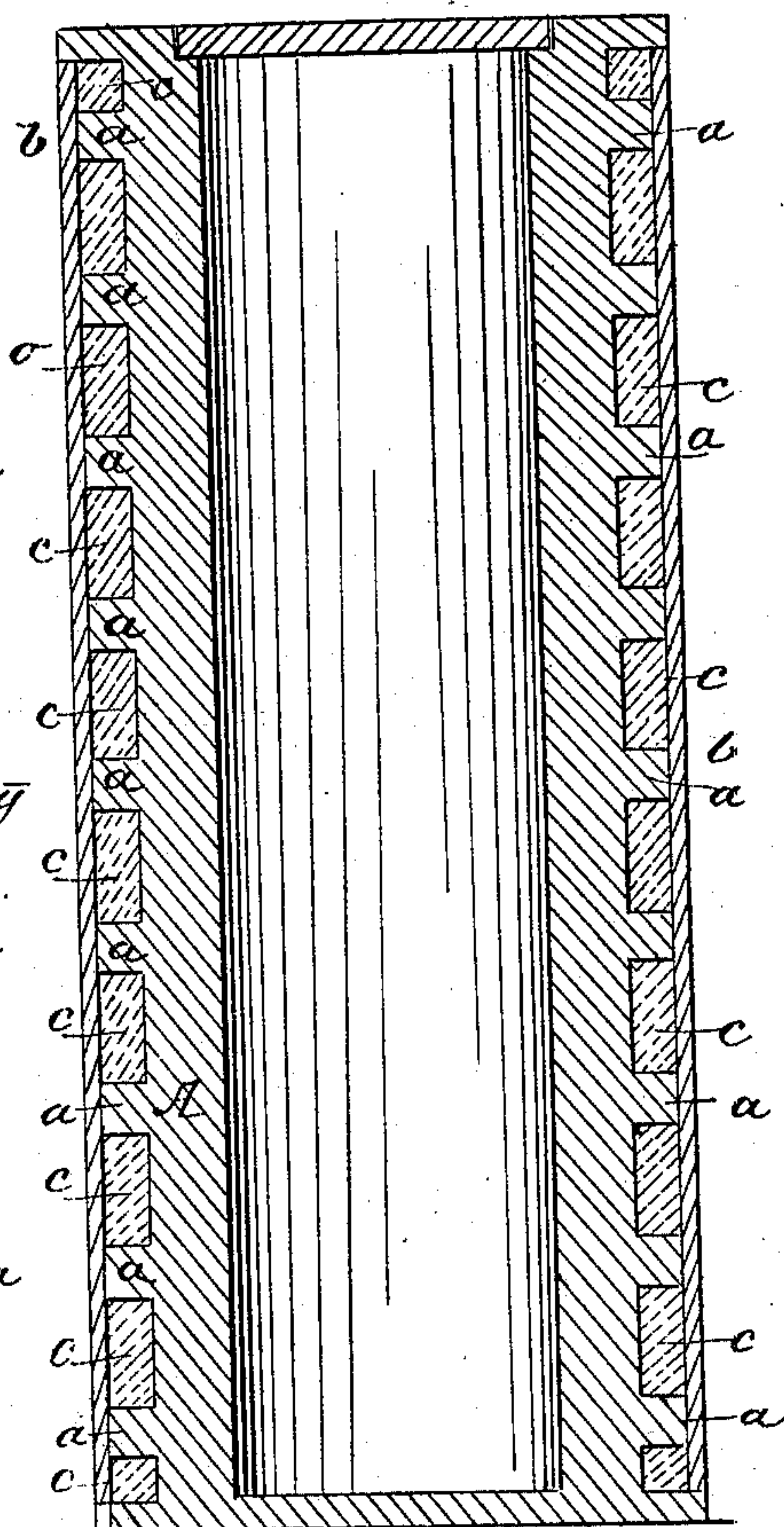
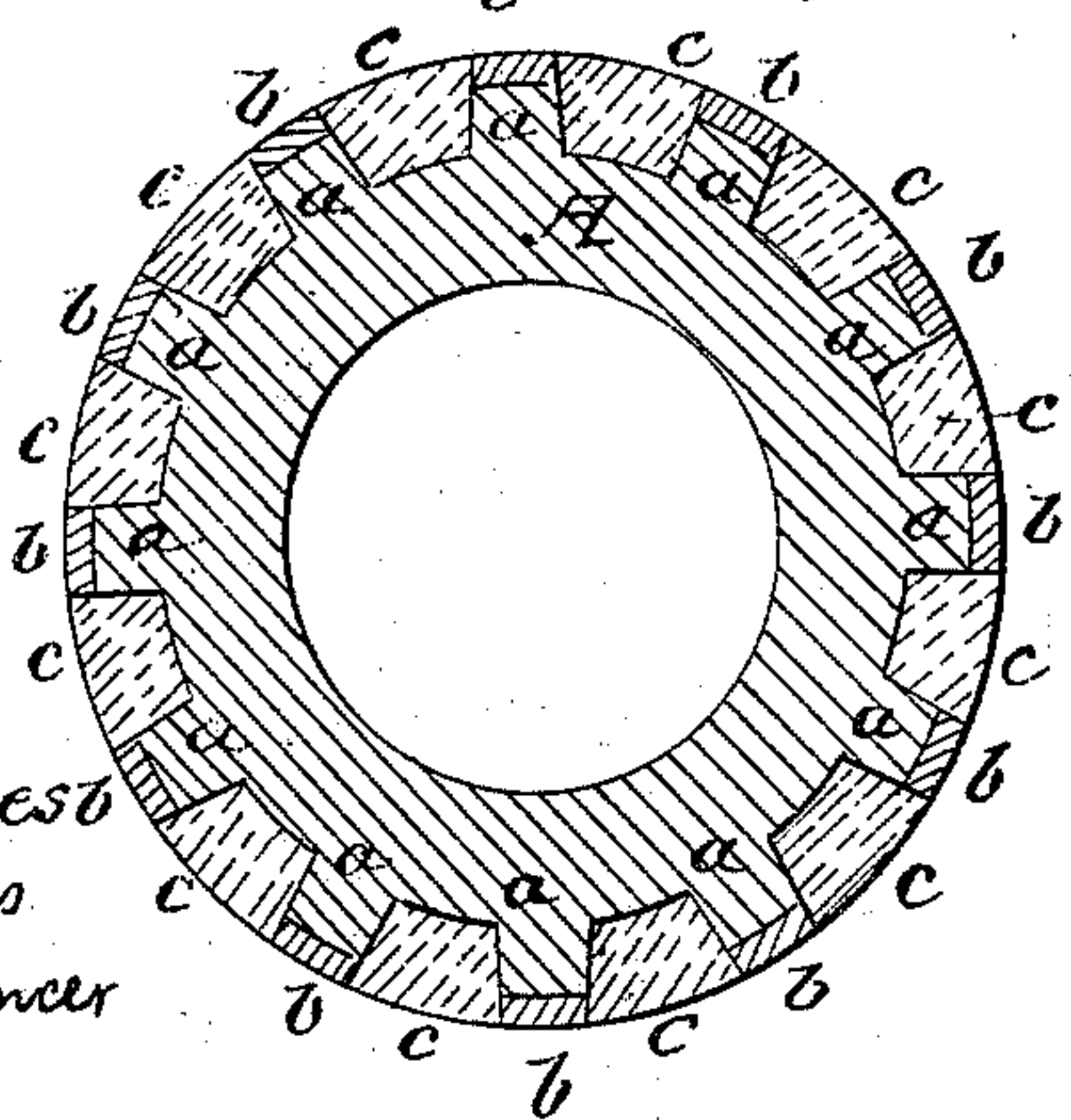


Fig. 3.

x



Witnesses  
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# UNITED STATES PATENT OFFICE.

JOHN MCAULAY GALLACHER, OF ROXBURY, MASSACHUSETTS.

## CONSTRUCTION OF GAS-RETORTS.

Specification of Letters Patent No. 32,219, dated April 30, 1861.

*To all whom it may concern:*

Be it known that I, J. MCAULAY GALLACHER, of Roxbury, in the county of Norfolk and State of Massachusetts, have invented  
5 a new and useful Improvement 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 a part of this  
10 specification, in which—

Figure 1, represents a side elevation of my invention. Fig. 2, is a longitudinal vertical section of the same, taken in the plane indicated by the line *x, x*, Fig. 1. Fig. 3,  
15 is a horizontal section of the same, the plane of section being indicated by the line *y, y*, Fig. 1.

Similar letters of reference in the three figures indicate corresponding parts.

20 This invention consists in the arrangement of lugs projecting from the outside surface of the retort and forming the supports of longitudinal ribs for the purpose of holding the cement which is placed on the  
25 outside of the retorts to preserve them against the injurious influence of the fire.

To enable those skilled in the art to make and use my invention I will proceed to describe its construction and operation with  
30 reference to the drawing.

Such iron retorts which are constantly exposed to the action of the fire are liable to burn out very soon thereby causing much expense and labor in taking out the old retorts and putting in new ones. It has therefore been proposed to cover the surface of the retort with some fireproof cement so as to preserve the metal against the injurious  
35 influence of the fire, and the only difficulty heretofore has been to prevent the cement from cracking and coming off, so as to render it necessary, at short intervals to renew

the same. This difficulty I have obviated entirely by providing on the outside surface of my retorts A, projecting lugs *a*, which  
45 form the supports of and are connected by the longitudinal ribs *b*. The spaces *c*, between these ribs and lugs are filled out with the cement or composition that is used for the preservation of the retort, as clearly  
50 shown in Figs. 2 and 3, where the cement is represented in red dotted lines. By these means the cement is firmly and securely retained and when once put on properly, it  
55 will stay as long as the retort lasts, and at the same time the retort will be perfectly protected at all times against the injurious influence of the fire.

It is obvious that this improvement may be applied to upright retorts such as represented in the drawing and also to horizontal  
60 retorts, or in fact to retorts of any size, shape, and position.

The lugs and ribs are cast with the retort, when the same is made of cast iron which  
65 is the most convenient and the cheapest material now in general use for gas retorts, but if a retort is made of any other material, the lugs and ribs may be fastened to its outside surface in any other convenient manner.  
70 In all cases by the use of these lugs and ribs the cement is firmly retained and the body of the retort is perfectly protected against the injurious influence of the fire.

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

The construction of the retort with longitudinal ribs and projecting lugs, as herein shown and described.

JOHN MCAULAY GALLACHER.

Witnesses:

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