

W. BEAUMONT.

Gas Retort.

No. 24,531.

Patented June 28, 1859.

Fig. 3.

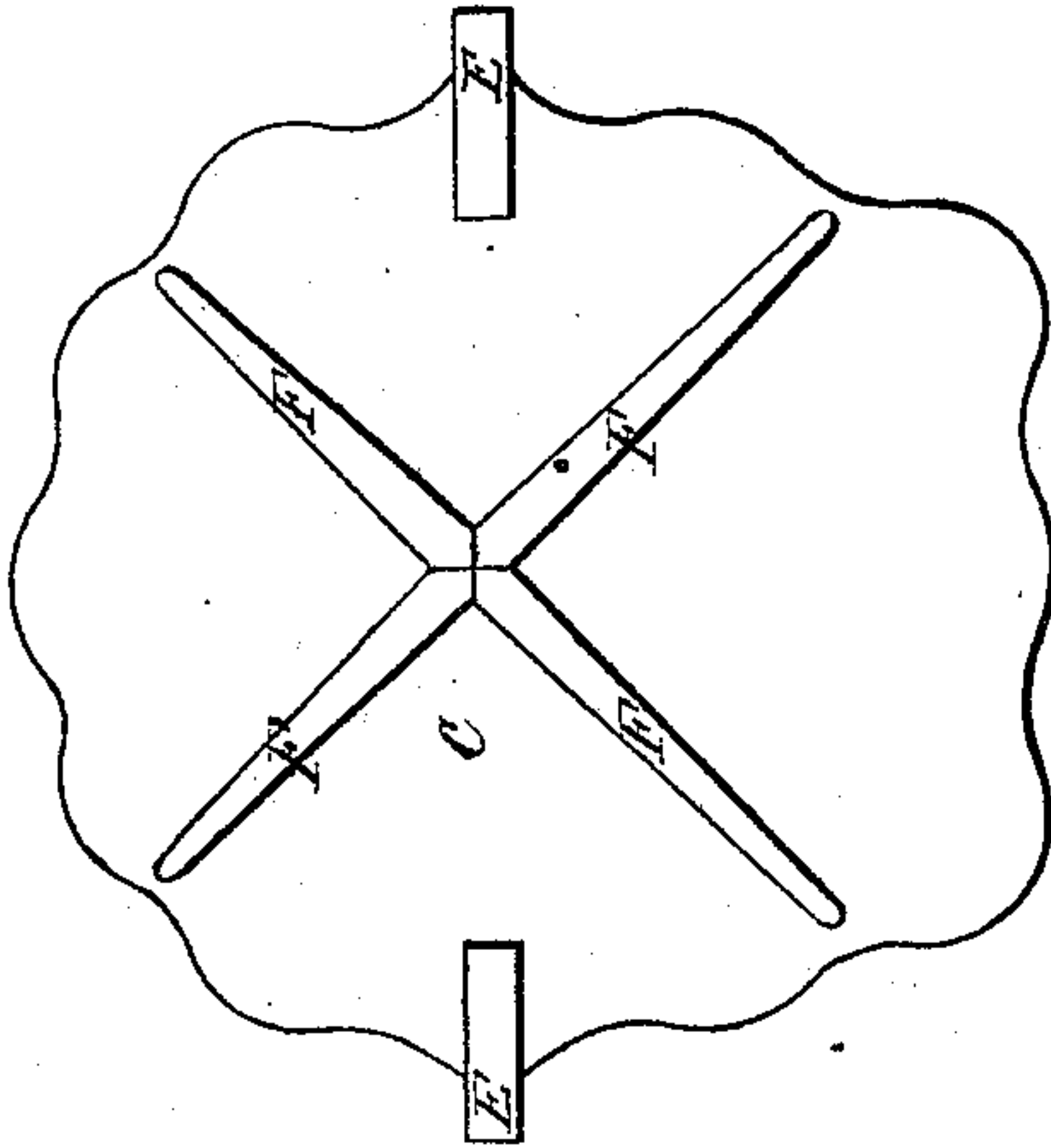


Fig. 2.

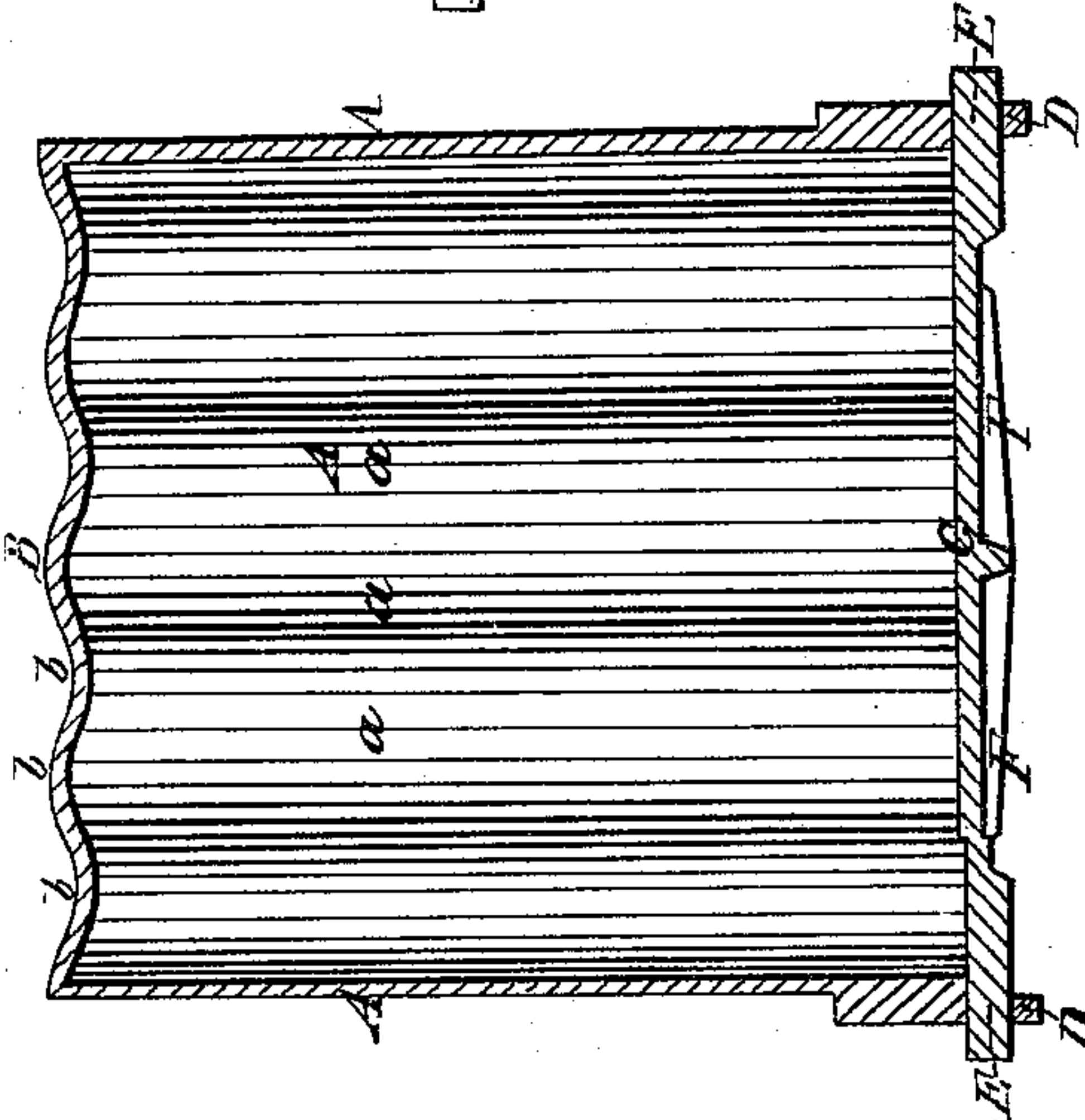
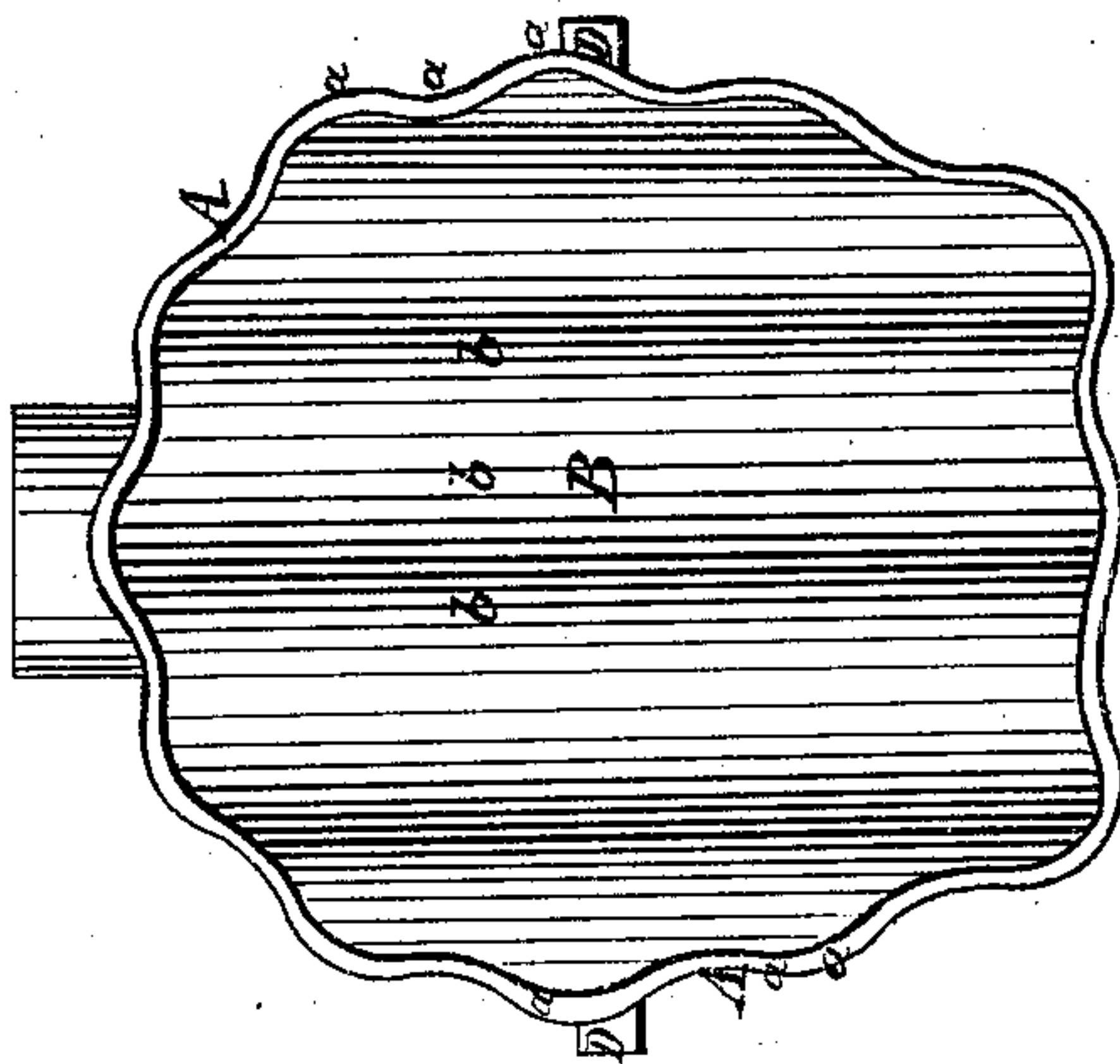


Fig. 1.



Witnesses:

Nath'l Lam
Robert R. Taylor

Inventor:

Wm Beaumont

UNITED STATES PATENT OFFICE.

WILLIAM BEAUMONT, OF PATERSON, NEW JERSEY.

IMPROVEMENT IN GAS-RETORTS.

Specification forming part of Letters Patent No. **24,531**, dated June 28, 1859.

To all whom it may concern:

Be it known that I, WILLIAM BEAUMONT, of Paterson, in the county of Passaic and State of New Jersey, have invented a new and useful Improvement in the Manufacture of Gas and other Retorts; and I do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents an end view, and Fig. 2 represents a horizontal section through one of the retorts in question. Fig. 3 represents the shape of the cover for a retort of the form herein represented.

Retorts become cracked by the expansion and contraction they are subjected to, and my object is to make provision for such expansion and contraction, as far as it is possible to do so, and thus save much of the expense heretofore incurred in that article. Simply corrugating the periphery of a retort will not answer unless the heads are corrugated also, for the shell otherwise will part from the heads, and this simply transfers the fracture from one portion to another portion of the retort.

The nature of my invention consists in corrugating the shell or perimeter of the retort as well as its head or end (or heads, if necessary) which is most exposed to the action of the fire, and consequently most subjected to expansion and contraction, thus making a retort which contains within itself the means of compensating for the expansion and contraction of the metal of which it is composed in all directions.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

I propose to cast the retorts; but they may be made of wrought plates, as boiler-iron, if so preferred. For the purpose of making gas the cast retorts are cheapest.

A represents the shell of the retort, which has a series of corrugations *aa*, &c., all around it.

B is the rear end of the retort, which is also

corrugated, as seen at *b*. Where the shell and rear end joins they show a corrugated joint, as seen in the section, and hence every part and portion of the retort may expand without one part separating from the other part or causing a fracture of the metal.

The head C, not being subjected to anything like the heat that the other portions of the retort are, need not be corrugated, especially when the cover or head is at the end and the retort stands, as shown in Fig. 2, though at no time is it subjected to any high degree of heat.

D D are lugs cast upon the body of the retort, into which the arms E on the cover C fit. When thus put together and secured and the joint packed, the retort is perfectly tight.

F are ribs cast on the head of the retort to strengthen it.

The general outline of the retort is seen in Fig. 1, it being of an irregular circular form and having its top, bottom, and sides arched and corrugated both. The head C, Fig. 3, has its perimeter of the shape and form of the shell, so as to fit its curves and corrugations. By thus making the corrugations all around those parts of the retort exposed to the fire it is free at all points to expand and contract without fracture. Besides, such corrugations present more fire-surface to a retort of a given content than when simply round, oval, or curved without corrugations.

I am aware that the bottom of a gas-retort has been made with reversed curves, which, so far as they go, serve the purpose of corrugations; but this I lay no claim to.

Having thus fully explained the nature and object of my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

Making all that part of a retort which is most subject to expansion and contraction corrugated to prevent fracture, as herein described.

WILLIAM BEAUMONT.

Witnesses:

NATHL. LANE,

ROBERTS R. TAYLOR.