

(No Model.)

J. S. MAYER.

POTTERY KILN.

No. 356,775.

Patented Feb. 1, 1887.

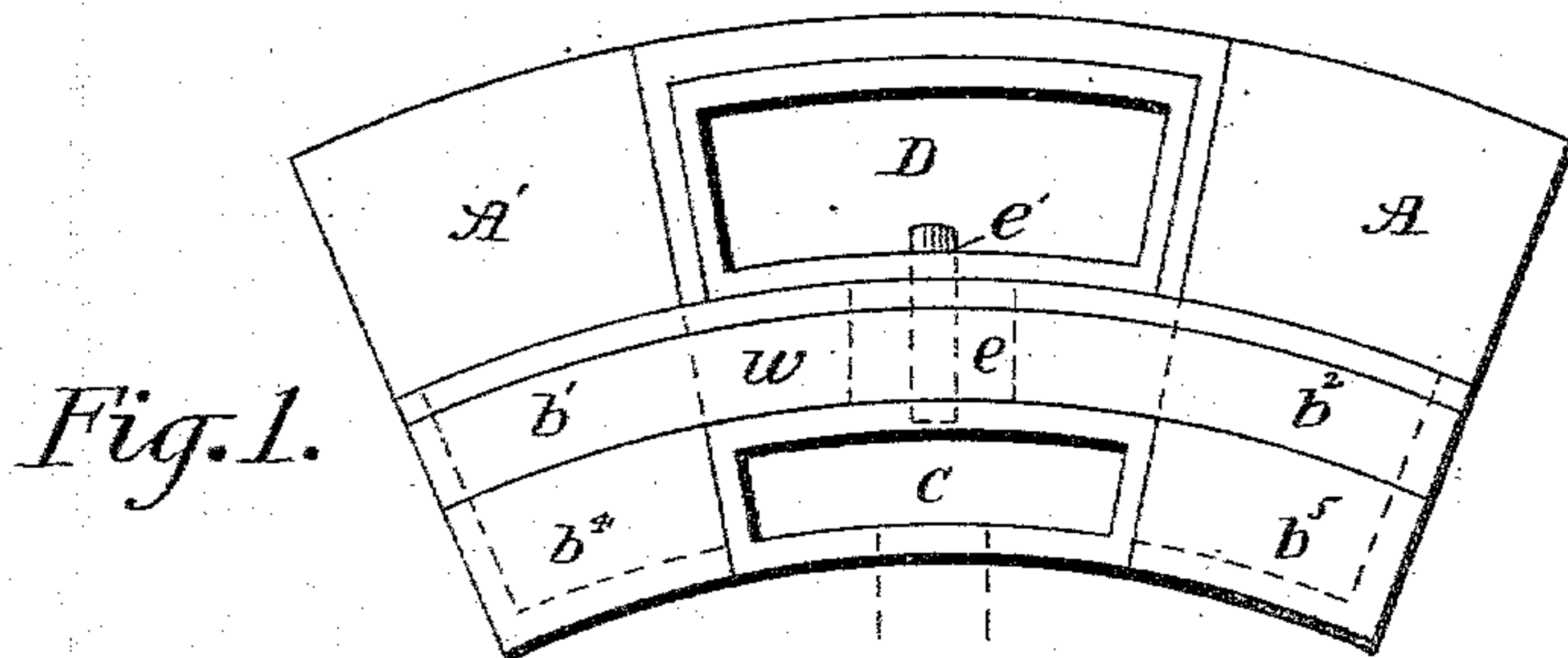


Fig. 2.

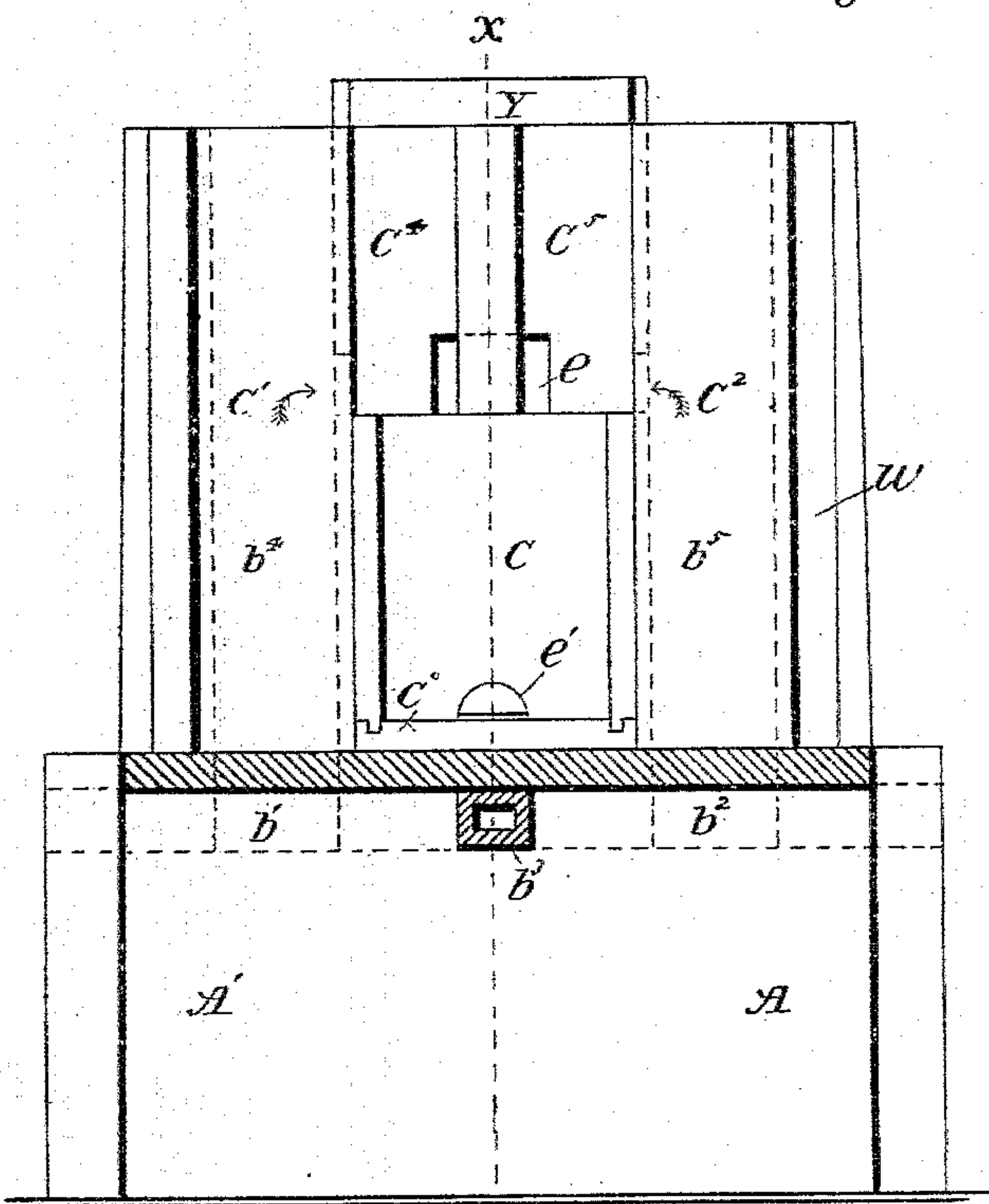
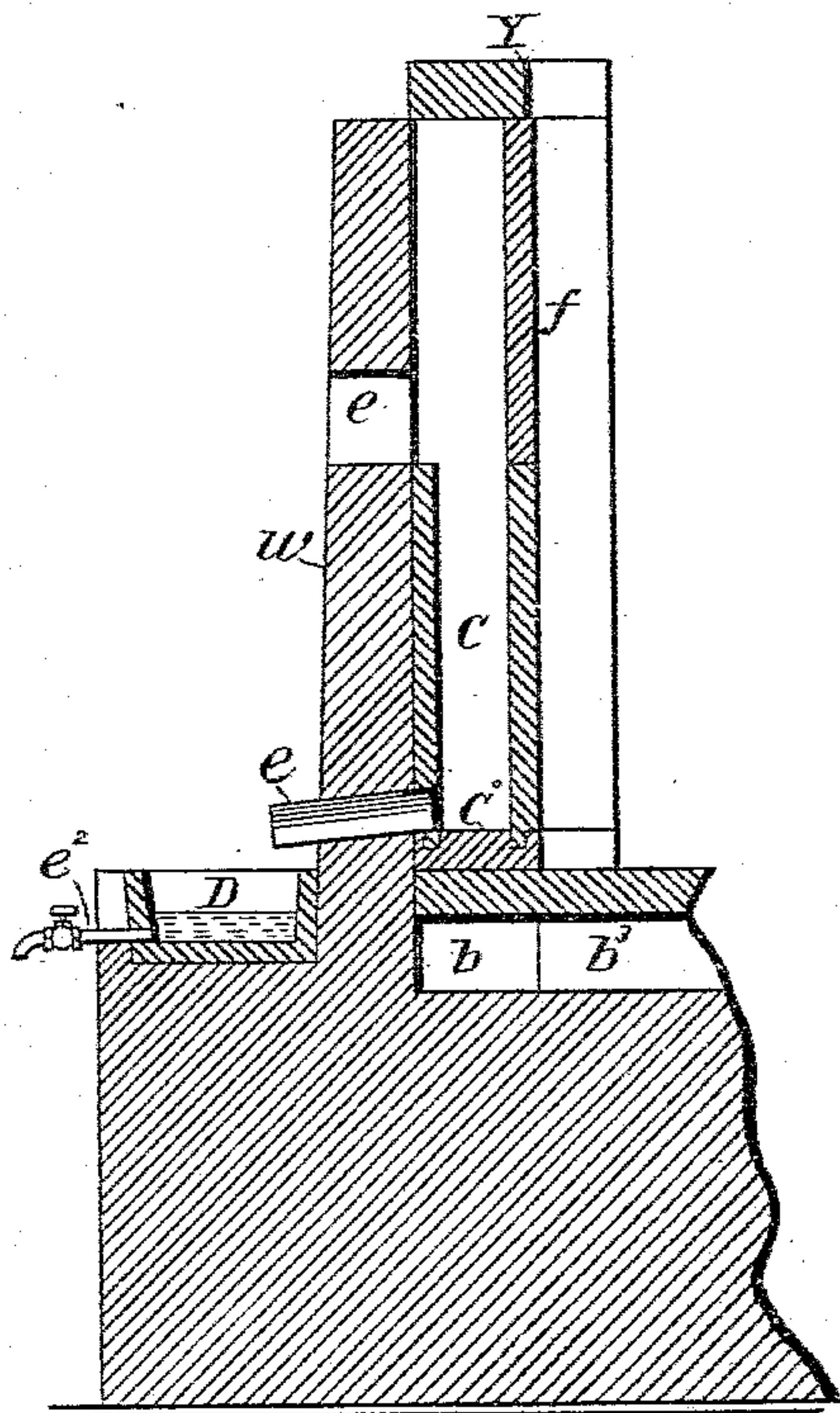


Fig. 3.



Witnesses:

Geo A. Brace
John V. Stapleton

Inventor:

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UNITED STATES PATENT OFFICE.

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POTTERY-KILN.

SPECIFICATION forming part of Letters Patent No. 356,775, dated February 1, 1887.

Application filed February 10, 1886. Serial No. 191,393. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH S. MAYER, a citizen of the United States, residing at Trenton, in the county of Mercer and State of New Jersey, have invented a new and useful Improvement in Pottery-Kilns, of which the following is a specification.

My invention relates to apparatus for the fusion of potters' glaze. Its object is to furnish a simple and inexpensive means of fusing "glaze" for potters' use.

It consists in a novel combination of one or more fret-kilns with a potter's kiln.

I accomplish the object of my invention by means of the device illustrated in the accompanying drawings, wherein—

Figure 1 is a plan showing a section of a potter's kiln (contained between two of its fires) embodying my improvement. Fig. 2 is an elevation of the same, looking from the inside of the kiln. Fig. 3 is a transverse vertical section taken on the line $x y$.

Similar letters refer to similar parts throughout the several views.

A is the oven or interior chamber of the kiln in which ware is burned.

$a a'$ are two of the fires which generate the heat for oven A.

b is an annular flue making a circuit of the kiln beneath the floor, into which all the fires discharge their heat.

$b' b''$ are flues made in the wall of kiln, through which the fires $a a'$ discharge their heat into the annular flue b .

b^3 is a radial flue connecting the flue b with center flue, o , through which the heat is transmitted to the center of the oven.

$b^4 b^5$ are two bags or flues built against the inside of kiln-wall, in open communication with flue b , and through which the heat is discharged into the oven near its periphery.

C is a fret-kiln for the fusion of glaze, preferably constructed in sections, the bottom C^o being composed of one piece of burned fire-clay, and fitted with a continuous groove extending around it near the outer edges thereof, into which the projecting tongues on the two sides and two ends snugly fit. The two end pieces are fitted close to bags $b^4 b^5$, and grooved on their inner surfaces to receive the projecting tongues on the sides and bind these sides together, the end pieces being kept firmly in position by being jammed in between bags $b^4 b^5$.

y is a plank of burned fire-clay, bridging the space between bags $b^4 b^5$. Its center is supported by wall f , built upon the top of the inner side of fret-kiln C. The saggars of ware are piled on plank y and carried up to the regular height, reducing the displacement in kiln caused by the fret-kiln to three saggars only.

$C' C''$ are flues through which the bags $b^4 b^5$ discharge a portion of their heat into fret-kiln C.

$C^4 C^5$ are two openings in fret-kiln C, establishing a free union with the general heat of oven A.

e is the charging-door in kiln-wall u , through which the product to be fused is passed into the reservoir of fret-kiln C.

e' is the tapping-hole extending through the kiln-wall u into the bottom part of fret-kiln C. It is used to draw off the liquid glaze while in a state of fusion.

d is a basin walled in the brick-work of kiln between fires $a a'$. It is used in connection with a hydrant to supply it with water, and a waste-pipe, e^2 , at its bottom part to draw water off. It is partly filled with water, and the liquid glaze discharged into it through the tapping-hole e' , which, upon contact with the water, flies into myriads of infinitesimal particles, resulting in a powder too fine to need the pounding process.

The fret-kiln, after being lined with silica, is charged through the door e . The heat from the fires $a a'$ is discharged through flues $b' b''$ into the main annular flue b , and is distributed through flue b^3 and bags $b^4 b^5$ to the center and periphery of oven, respectively. The heat passes from bags $b^4 b^5$, through flues $C' C''$, into fret-kiln C, and, in conjunction with the free heat of the oven received through flues $C^4 C^5$, fuses the glaze therein. The liquid glaze, when properly fused, is let out through the tapping-hole e' into the basin d , partly filled with water, with the result previously described. The kiln is again charged and the operation repeated.

What I claim as new is—

The combination and arrangement of potter's kiln A, fret kiln C, bags $b^4 b^5$, and flues C' , C'' , C^4 and C^5 , substantially as specified.

JOSEPH S. MAYER.

Witnesses:

WM. H. IVENS,
JOHN KRUMHOLZ.