

(No Model.)

C. E. ASHCROFT.  
SMELTING FURNACE.

No. 314,557.

H<sup>2</sup> Patented Mar. 31, 1885.

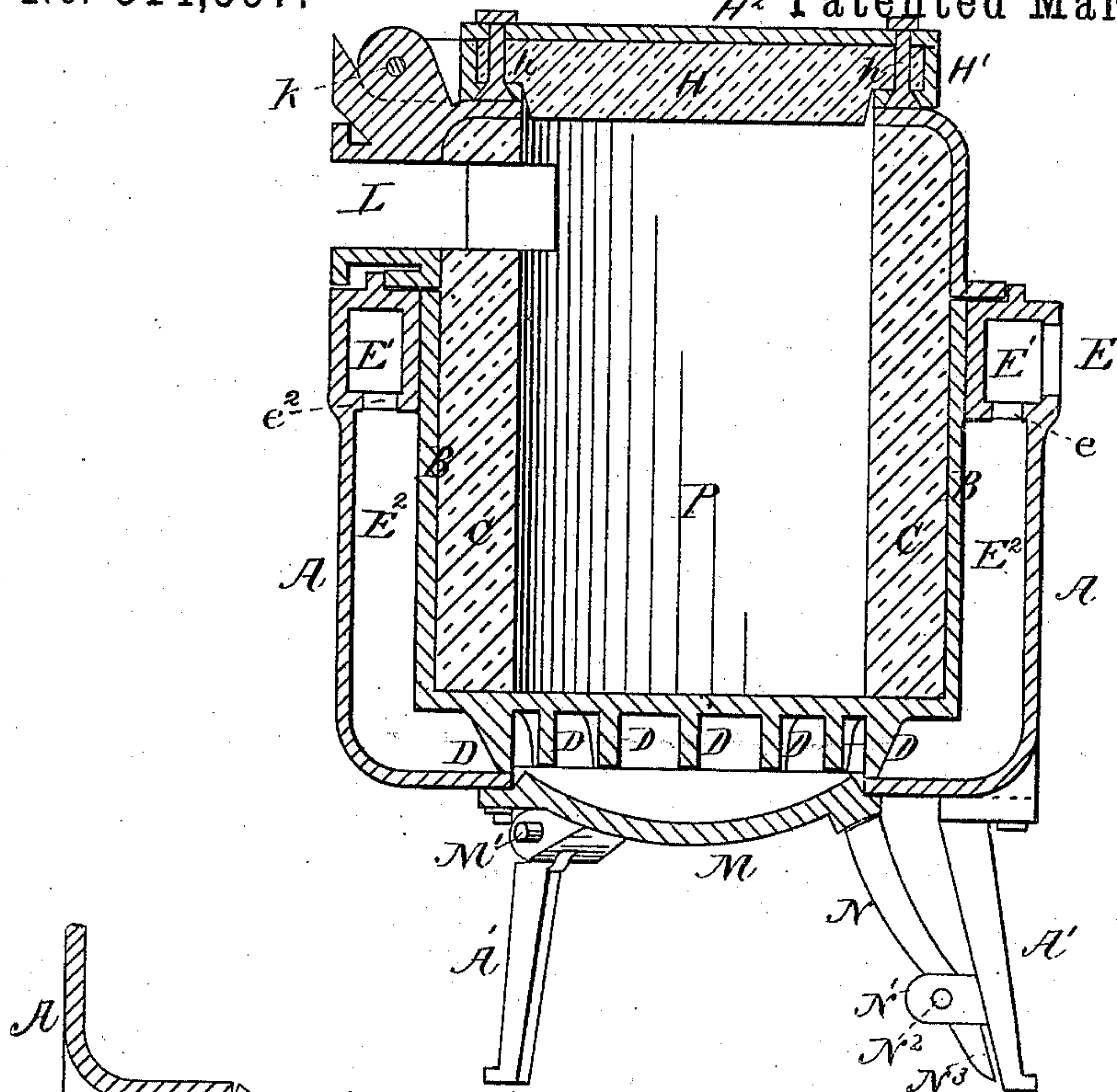


FIG-1-

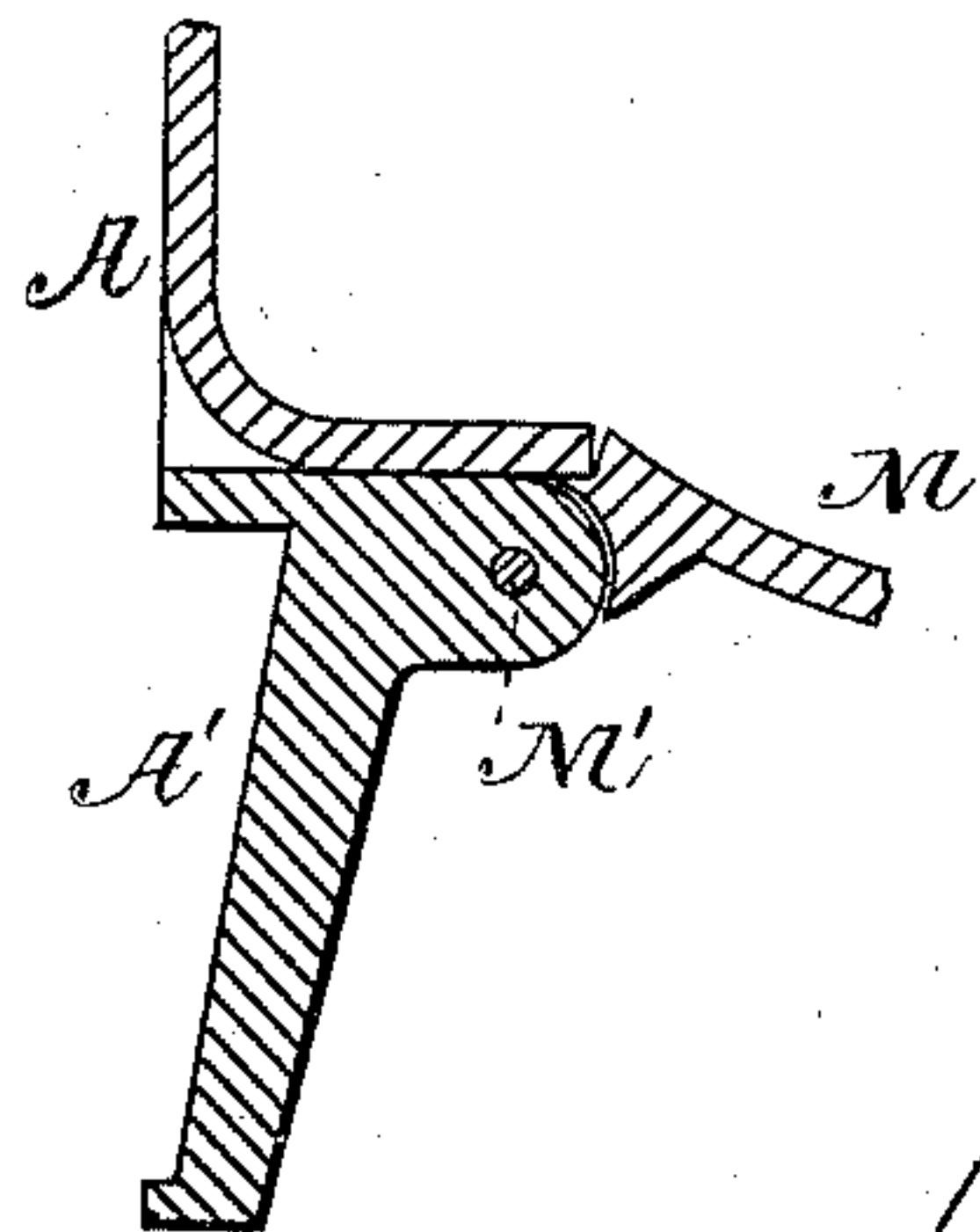


FIG-3-

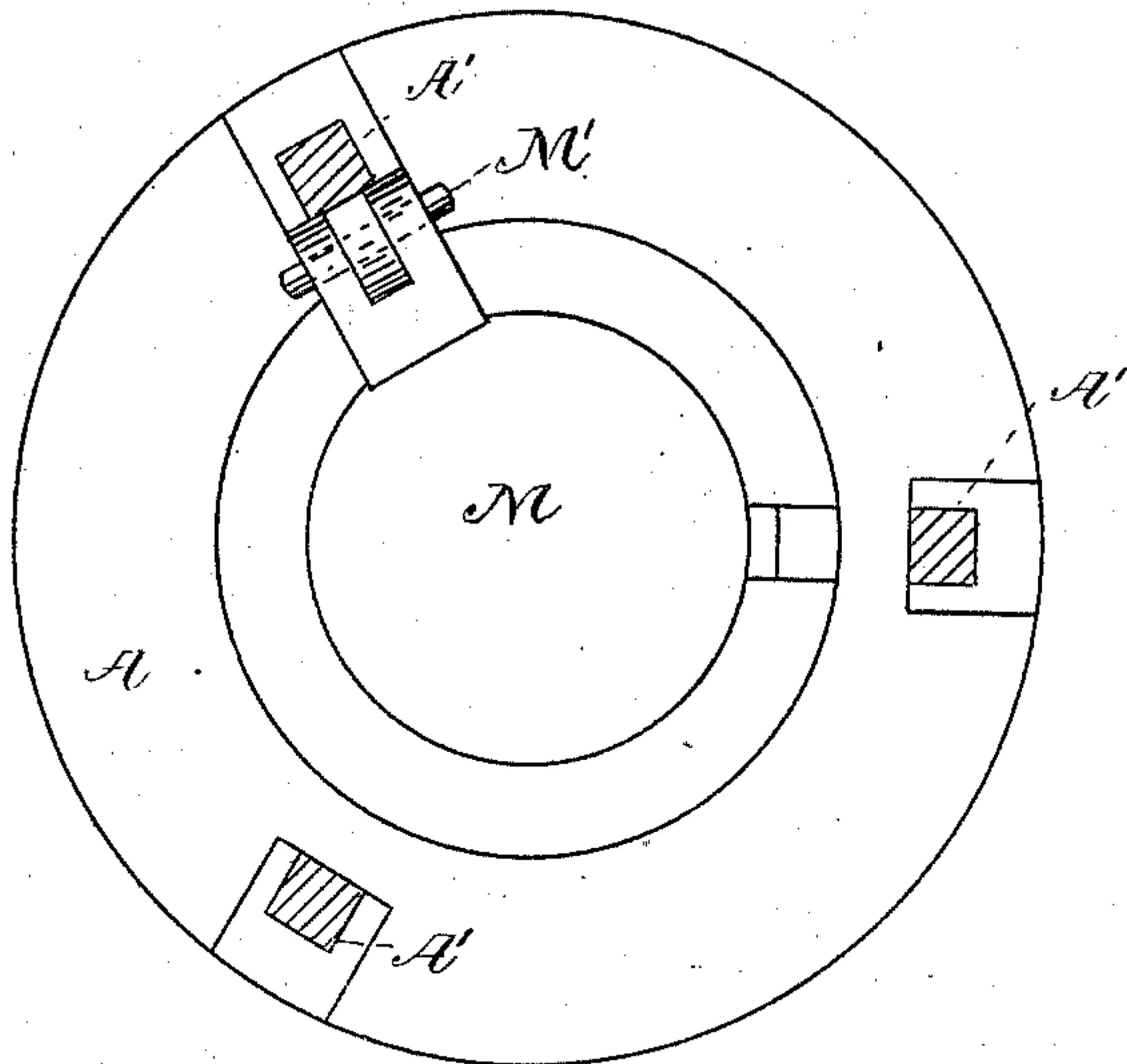


FIG-2-

WITNESSES

*Chas. Spaulding.*  
*Albert D. Grover.*

INVENTOR

*Charles E. Ashcroft.*

# UNITED STATES PATENT OFFICE.

CHARLES E. ASHCROFT, OF LYNN, MASSACHUSETTS.

## SMELTING-FURNACE.

SPECIFICATION forming part of Letters Patent No. 314,557, dated March 31, 1885.

Application filed January 14, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES E. ASHCROFT, of Lynn, in the county of Essex and State of Massachusetts, have invented certain new and  
5 useful Improvements in Smelting-Furnaces, of which the following is a specification.

My furnace is especially adapted for treating the less refractory metals, and relates to that class in which the air-blast is admitted  
10 from a jacket which surrounds the lower part of the furnace, the object being to simplify the construction of the furnace. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

15 Figure 1 is a vertical section. Fig. 2 is a view of the bottom of the furnace looking upward. Fig. 3 is a detail showing the hinge of the ash-drop.

20 A A represent the outer casing of the furnace, which is supported upon three legs, A' A' A'. The upper edge of this casing A terminates in an annular wind-chamber, E', into which air is forced at F, Fig. 1, and from which, through perforations e, the air passes  
25 into the chamber E<sup>2</sup>, thence through the opening between the supports D to the fire-pot P.

To construct the fire-pot P, I proceed as follows: A casing, B B, is formed, having supporting-projections D D. This casing D is  
30 lined with fire-brick C, and is provided with a smoke-flue, L. (See Fig. 1.)

H is a block of refractory material, which forms the cover of the fire-pot. This block H is fitted into a ring of iron, H', which is provided with a hinge, as indicated at k. The  
35 refractory block H is held in position by means of bolts h h, Fig. 1, and the flat plate H<sup>2</sup>.

M is an ash door or drop, which is hinged at M' to one of the legs A', and is held upward in position by two levers, N, one of which is  
40 shown in Fig. 1. Each lever is connected to one of the legs A' by means of a projection, N', extending inwardly from the leg A', and a pivot, N<sup>2</sup>. The lever N extends below its pivot, as shown at N<sup>3</sup>, Fig. 1, this extension  
45 N<sup>3</sup> serving as a check for preventing the lever N from falling when it is not supporting the ash-drop M. To allow the drop M to fall, the workman pries away the lever N, so that its  
50 upper end slips away from the drop M and allows the drop to fall.

I claim—

In a smelting-furnace cover, the combination of the metal ring H' and plate H<sup>2</sup>, having a hinge, K, with the refractory block H, and  
35 screw-bolts h, whereby all the parts are fastened together, substantially as described, and for the purpose set forth.

CHARLES E. ASHCROFT.

Witnesses:

CHAS. SPAULDING,  
ALBERT D. GROVER.