

L. RYAN.

REMOVABLE BOTTOMS FOR PUDDLING HEARTH.

No. 184,432.

Patented Nov. 14, 1876.

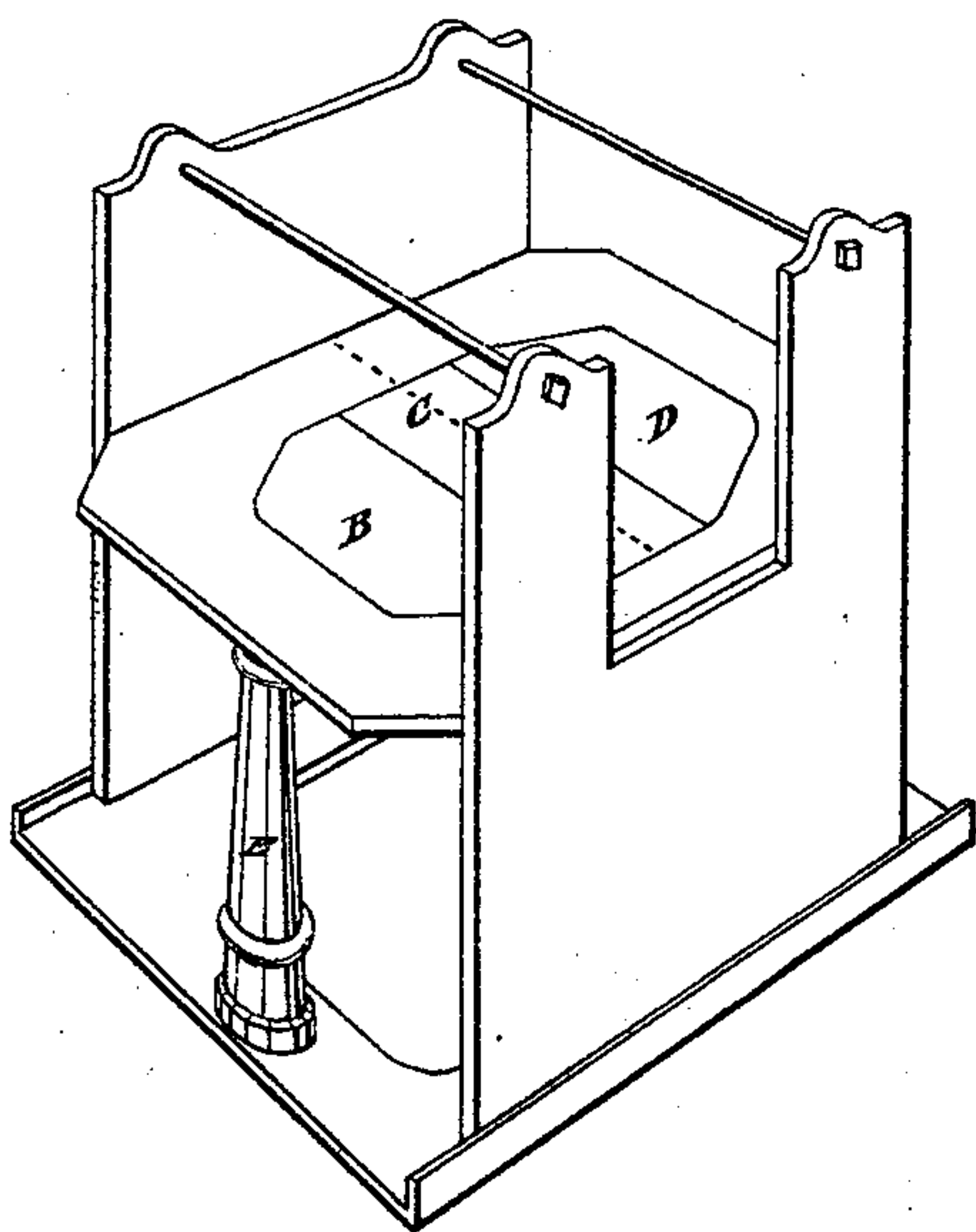


Fig. 1

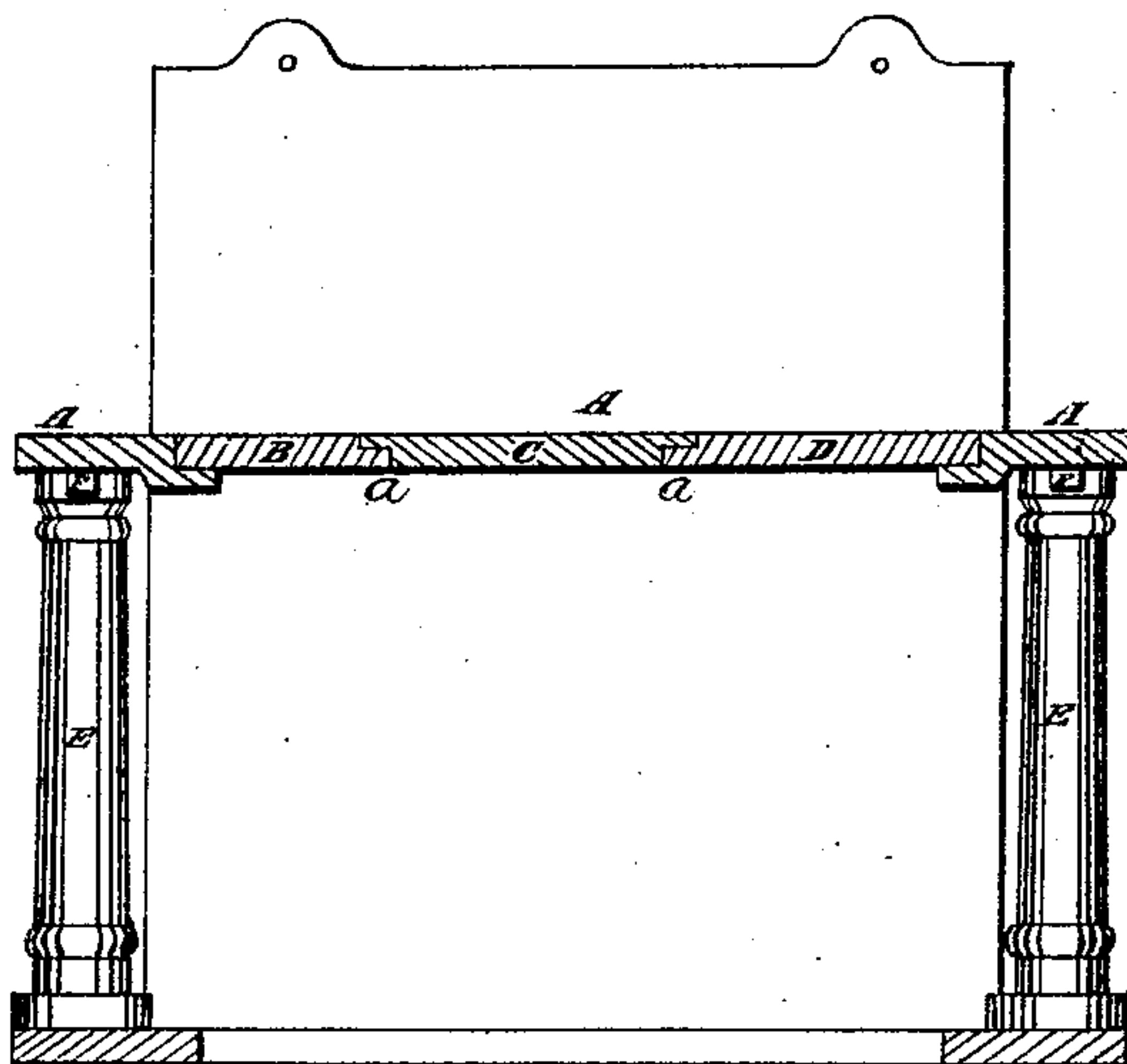


Fig. 3

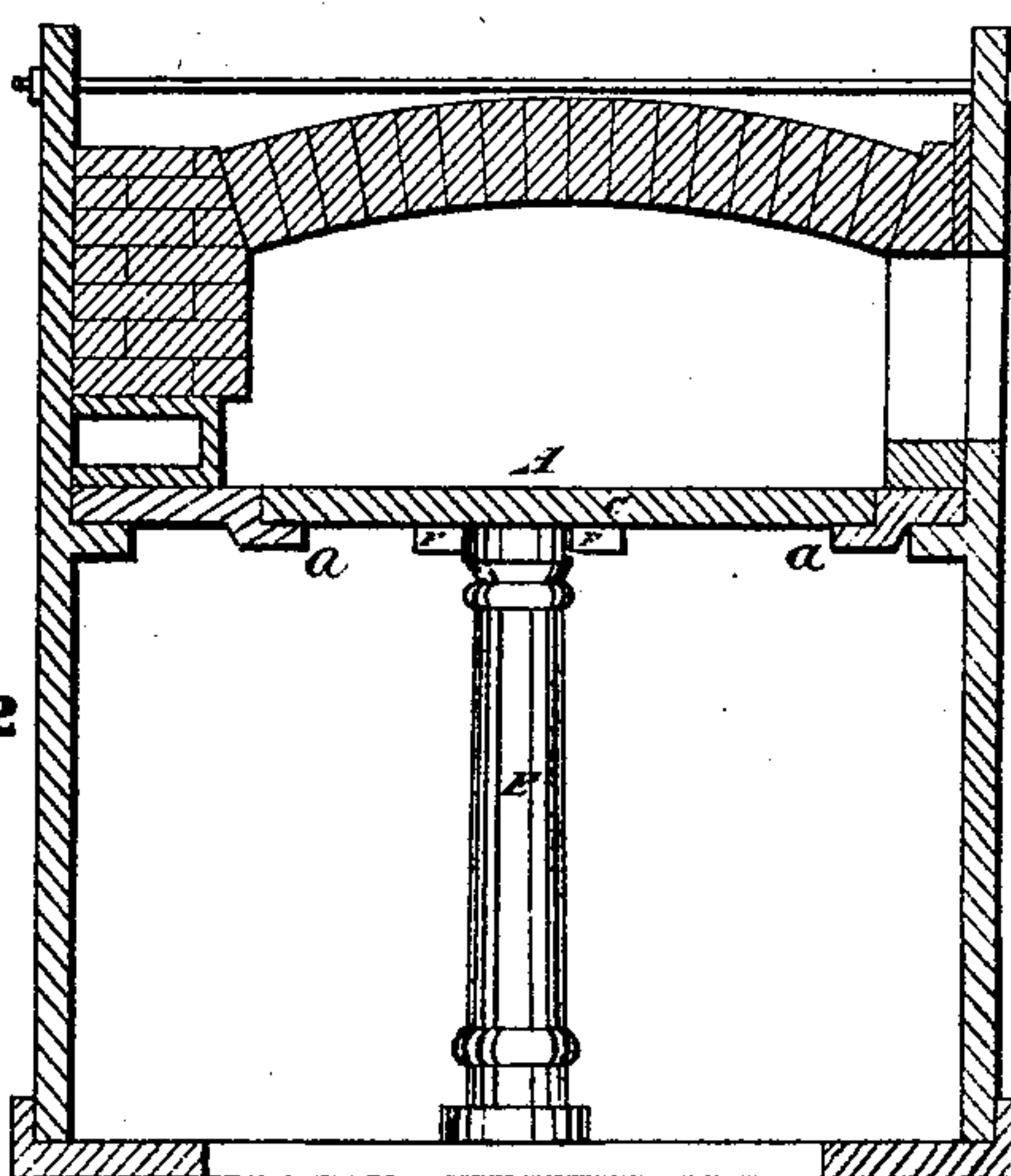


Fig. 2

Witnesses

F. H. Peebles

P. V. Keller

Inventor

L. Ryan

Witnesses James Nicholas

# UNITED STATES PATENT OFFICE.

LUKE RYAN, OF SHARON, PENNSYLVANIA, ASSIGNOR OF ONE-HALF HIS  
RIGHT TO GEORGE WESTERMAN, OF SAME PLACE.

## IMPROVEMENT IN REMOVABLE BOTTOMS FOR PUDDLING-HEARTHES.

Specification forming part of Letters Patent No. **184,432**, dated November 14, 1876; application filed  
July 29, 1876.

*To all whom it may concern:*

Be it known that I, LUKE RYAN, of Sharon, in the county of Mercer and State of Pennsylvania, have invented certain Improvements in Removable Bottoms for Puddling-Hearths, of which the following is a specification:

This invention relates to certain improvements in that class of puddling-furnaces in which a removable bottom is employed, which may be renewed or replaced when burned out; and its object is to provide a frame or support for the sections or parts of which the removable bottom is composed, whereby the said sections can be readily changed when destroyed, and securely and firmly supported and held when in place.

In the accompanying drawing, Figure 1 represents a perspective view of the bottom, sides, and base of a furnace without the brick-work; Fig. 2, a transverse section of the furnace with the bottom, air-chamber, and brick-work complete; and Fig. 3 is a longitudinal section, showing the flanged frame and the removable panels.

In the drawing, the letter A represents a frame, of cast-iron or other suitable material, of suitable size and shape, so as to fit the lower part of the furnace, and form, with the removable panels B C D, the bottom of the furnace. Said frame is provided with a flange, *a*, around the edges of the opening in which the panels are inserted, for the reception of the same, forming a seat, upon which they rest leaving their upper surfaces flush with each other and with the upper surface of the frame. The frame is supported upon standards or columns E E, as usual, having cross-pieces F F on their tops to afford a better support. The edges of the panels are flanged, so as to fit together and break joints when in place.

In the furnaces of this class as heretofore constructed, the removable plates have been secured to the bottom of the furnace upon

movable bearers or supports, arranged below the openings in the bottom for the purpose, rendering it difficult to change the panels with facility, or properly insert them in place.

By means of the flanged frame, as in my invention, the necessary change can be readily made without trouble, the panels always dropping in place, and adjusting themselves, as will be readily perceived.

With a furnace-bottom constructed as described it will be seen that the frame for supporting the panels is entirely separate from the boshes of the furnace.

I am aware that the boshes of a puddling-furnace have been made with a ledge for the support of the panels; but that construction of furnace-bottom is objectionable, for the reason that when the boshes burn out they cannot be renewed without also removing the bottom and its support.

With my device the boshes may be renewed without affecting the frame which supports the panels; and, as will be obvious, my frame is so located and protected that it cannot be burned out, or require renewal from such cause. The panels which form the bottom may burn out and be renewed; but the frame which supports them is not exposed, and is, therefore, not liable to injury from this cause.

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

The frame A, provided with a flange, *a*, for seating the removable panels of the furnace-hearth, said frame being entirely separate from the bosh-casting, substantially as and for the purpose herein set forth.

his  
LUKE X RYAN.  
mark.

Witnesses:

F. H. PEEBLES,  
P. W. KELLER.