

B. S. BENSON.

Pipe-Mold Drying and Casting-Pits.

No. 154,006.

Patented Aug. 11, 1874.

Fig 1.

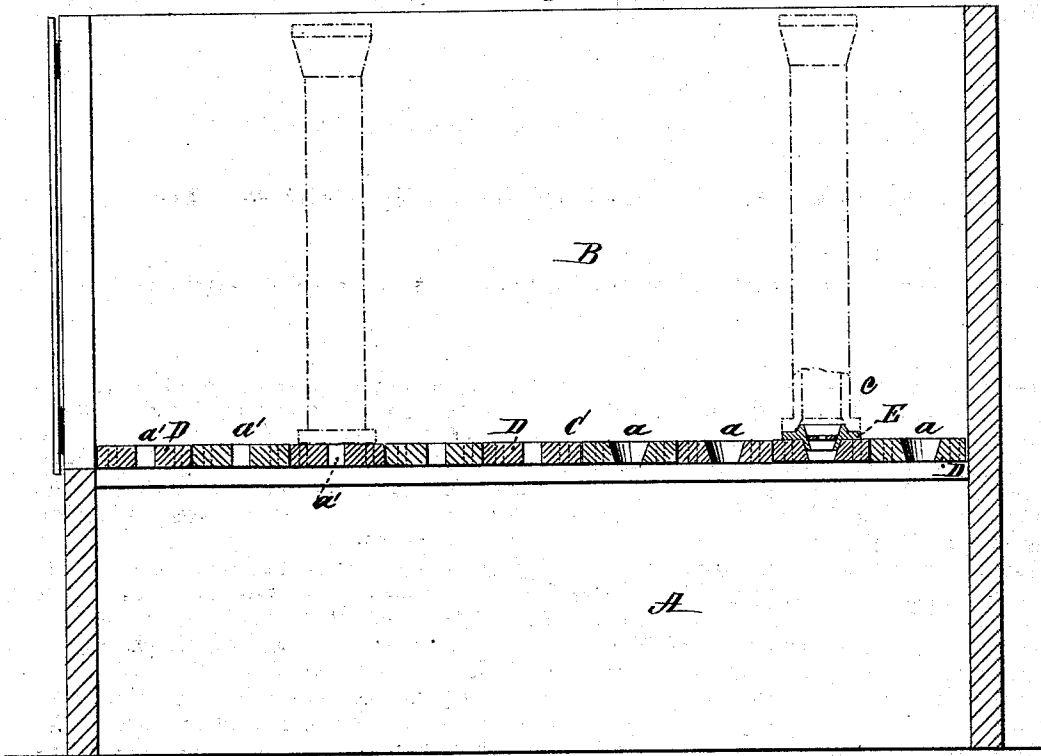
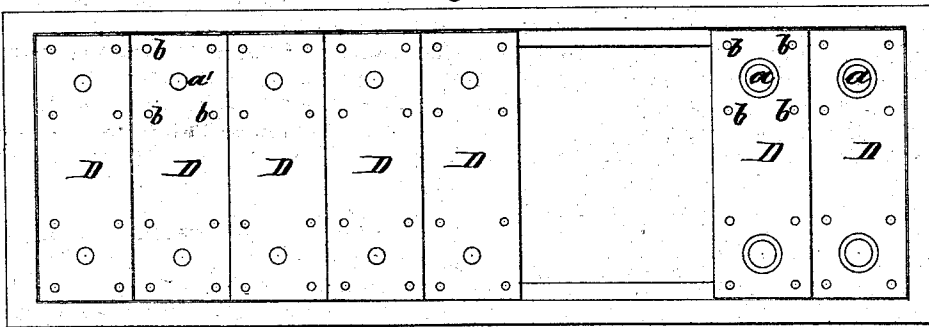


Fig 2.



WITNESSES:

G. Matheys.
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BY *[Signature]*

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UNITED STATES PATENT OFFICE.

BENJAMIN S. BENSON, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN PIPE-MOLD DRYING AND CASTING PITS.

Specification forming part of Letters Patent No. 154,006, dated August 11, 1874; application filed June 27, 1874.

To all whom it may concern:

Be it known that I, BENJAMIN S. BENSON, of Baltimore city, in the State of Maryland, have invented a new and useful Improvement in Pipe-Mold Drying and Casting Pits; 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 specification, in which—

Figure 1 is a sectional elevation, and Fig. 2 a top-plan view, of an oven and casting-pit provided with a floor constructed according to my invention.

The improvement relates to the floor of the oven and casting-pit; and consists in providing the plates or sections which compose the same with a series of apertures peculiarly arranged for the upward passage of the hot blast to act on the pipe-mold both interiorly and exteriorly, as hereinafter fully set forth.

The pit or oven has the usual fire or furnace chamber A below, and drying and casting space B above, the horizontal floor C. The floor is made up of metal plates or sections D, which are in this instance rectangular, but will in general conform to the shape of the pit in which they are employed. The several plates fit closely together, but are adapted to be readily removed, as repair, substitution, or other cause may require. Each has one or more sets or series of apertures, consisting of one (*a* or *a'*) that is central, and others (*b*) smaller grouped around it equidistantly. The central aperture may be sufficiently large, as at *a*, to receive a chill, E, such as is usually employed as a base to cast the pipe on; but in such case a perforated disk or blast-check device, *c*, will be necessary to reduce the size of the opening through which the hot air obtains access to the interior of the mold. When,

however, the central aperture is made smaller, as at *a'*, the chill E is dispensed with, and the bottom of the flask F placed directly on the floor-plate during the mold-drying process, and subsequently transferred thence to a part of the oven provided with plates D, having the larger aperture *a*.

I have illustrated in the drawing the position of the flask both with and without the chill. The action of the hot blast on the mold is the same in both cases, the air passing up through the central opening, *a* or *a'*, to dry the interior of the mold, and through the outer smaller ones, *b*, which are in suitable proximity, and impinging on the sides of the flask, to dry the mold exteriorly.

This construction of floor-plate has obvious advantages over the old form, chiefly in that a "stool" or other supplementary base or support for the pipe-flask, to control the direction and consequent action of the blast, is rendered unnecessary.

The pressure of the air in the fire-chamber is equalized in the several parts thereof, and the blast, therefore, passes through the holes in the removable plates with equal force, thus producing a like effect on the several flask-molds.

What I claim is—

In a pipe-oven and casting-pit, the floor plates or sections having the aperture *a* or *a'*, and the apertures *b b b* arranged around it in a circle, and equidistantly, to control or direct the action of the blast both exteriorly and interiorly of the flask, said plates or sections being otherwise imperforate, all as shown and described.

BENJAMIN S. BENSON.

Witnesses:

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