(No Model.)

L. HOUZE.

GLASS MELTING FURNACE.

No. 434,931. Patented Aug. 26, 1890.

Fig 1

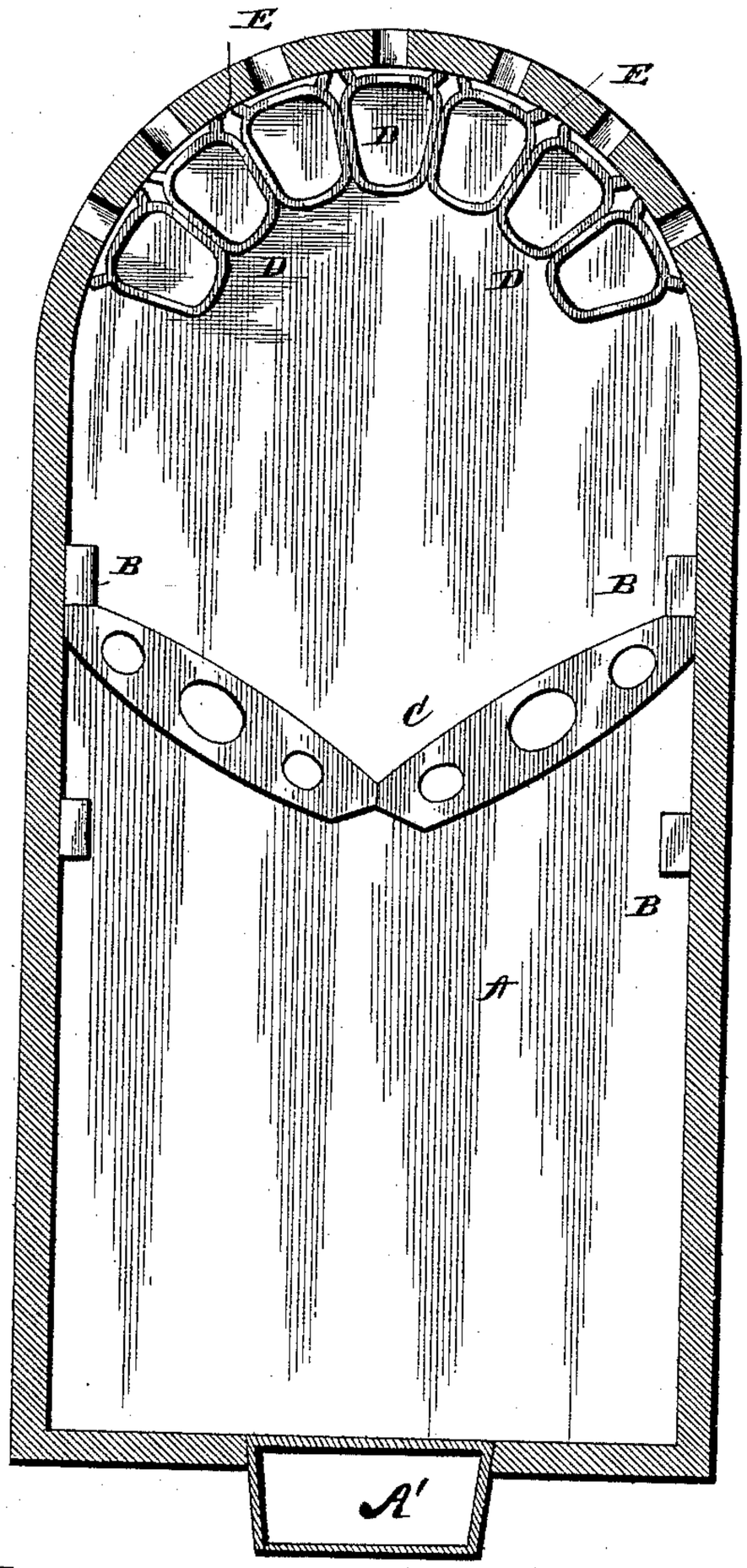


Fig 2

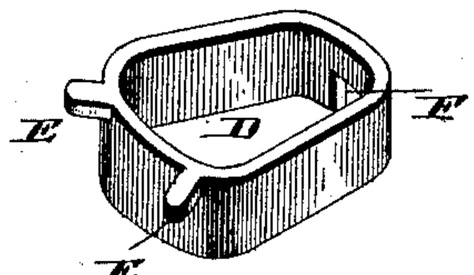
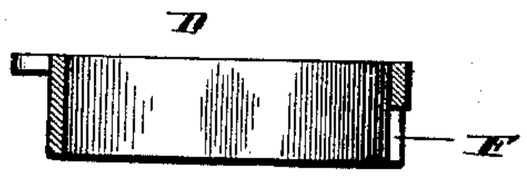


Fig 3



Witnesses
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Inventor
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By his Attorneys
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UNITED STATES PATENT OFFICE.

LUKE HOUZE, OF FOSTORIA, OHIO, ASSIGNOR OF TWO-THIRDS TO CHARLES FOSTER AND LEOPOLD MAMBOURG, OF SAME PLACE.

GLASS-MELTING FURNACE.

SPECIFICATION forming part of Letters Patent No. 434,931, dated August 26, 1890.

Application filed May 19, 1890. Serial No. 352,417. (No model.)

To all whom it may concern:

Be it known that I, LUKE HOUZE, a citizen of the United States, residing in the city of Fostoria, in the county of Seneca and State of Ohio, have invented certain new and useful Improvements in Glass-Melting Furnaces; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in glass-melting furnaces, and has especial reference to the construction of the "gathering-ring."

The invention consists in certain novel features of the device illustrated in the accompanying drawings, as will be hereinafter first fully described, and then pointed out in the claim.

In the drawings just referred to, Figure 1 is a sectional plan view of the tank of the furnace, showing my improvements in operative position therein. Fig. 2 is a perspective view of the ring, and Fig. 3 is a longitudinal section of the same.

The tank A may be of any preferred size and of any desired construction, having the stack A′, provided the projections B B be formed on its side walls. A floating two-part partition or screen C is arranged within the tank and rests against these projections, being thereby prevented from being carried toward the front end of the tank by the flowing glass.

I make no claim to this partition in the present case, as it forms the subject-matter of a separate application of even date herewith, Serial No. 352,418.

The gathering-ring is arranged at the front end of the tank and adjacent to the door or opening in the front wall thereof, as clearly shown in Fig. 1.

In carrying out my present improvements I construct the ring D of an oval form, the front end being the wider and the sides being straight or flat.

At the front end of the ring or pot, at the upper edge of the same, I provide the forwardly-projecting lugs or offsets E E, which bear against the inner side of the front wall of the tank, and thereby hold the ring in its proper position. In the rear end of the ring I form an opening F, which extends upward about half-way to the upper edge of the ring and permits the glass to flow into the ring.

In practice when the glass is hot and in a liquid form the impurities therein will rise to its surface and will float thereon. Consequently as the glass flows toward the front end of the tank the impurities will be carried against the transverse float or partition C, and be thereby prevented from passing to the said front end of the tank with the glass. At the front end of the tank the glass will flow through the opening in the rear end of the ring and will be gathered from the said ring in the usual manner, impurities that may have escaped the partition or float being arrested by the walls of the ring.

The rings now in common use are of a circular formation, and, as they have but a slight bearing upon each other when a number of rings are used in the same tank, the motion of the flowing glass causes them to shift upon each other and drift apart, thus permitting the cold glass to work into the interior of the ring and spoil the glass. I overcome this objection by making the ring or pot in the oval form shown and described, thereby providing straight or flat sides and permitting the several rings to have an extended bearing upon each other, so that they cannot drift apart, as will be readily understood upon reference to the drawings.

In practice heretofore the rings have been made of an equal depth throughout, and consequently the glass which came in contact with the front wall of the tank was cooled and then flowed under the ring and into the center of the same, mixing with and spoiling the good glass therein. In my device this objectionable feature is effectually obviated, as the cold glass will be permitted to flow under the lugs E and between the ring and the front wall of the tank and will be caused to flow around the ring to the rear end thereof

and pass through the opening in the rear end thereof, mingling with the hot glass before passing into the ring, thus preventing the formation of ropy glass.

From the foregoing description, taken in connection with the accompanying drawings, it will be seen that I have provided a device which is very simple in its construction, and by the use of which I am enabled to produce an article of glass superior to the glass heretofore produced at a slight cost.

The advantages of my device are thought to be obvious from the foregoing description, and further comment thereon is deemed unnecessary.

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

The combination of the tank having a curved front end provided with a series of working-openings and the series of oval-shaped gathering-rings at the front end of the tank having straight flat sides, whereby the rings bear upon each other and are prevented from shifting, as set forth.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

LUKE HOUZE.

Witnesses:
A. W. AYLSWORTH,
LEWIS WADE.