

N. SNYDER.

FURNACE FOR MELTING GLASS.

No. 171,876.

Patented Jan. 4, 1876.

Fig. 1.

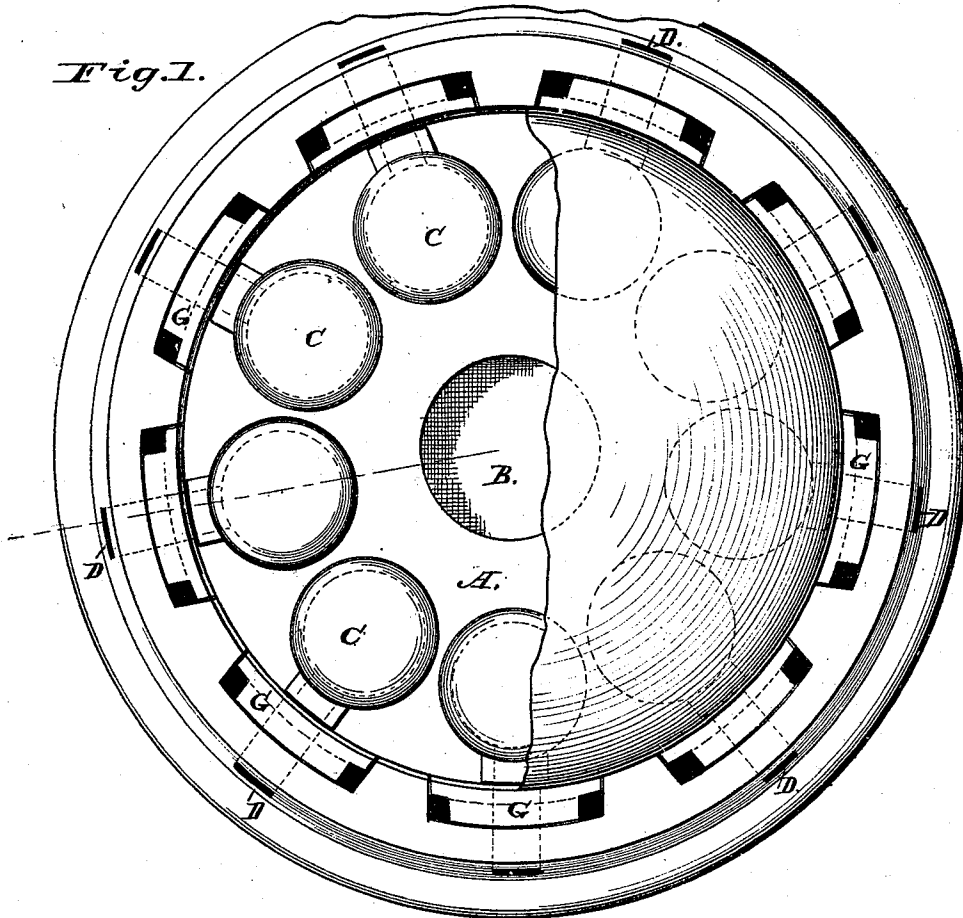
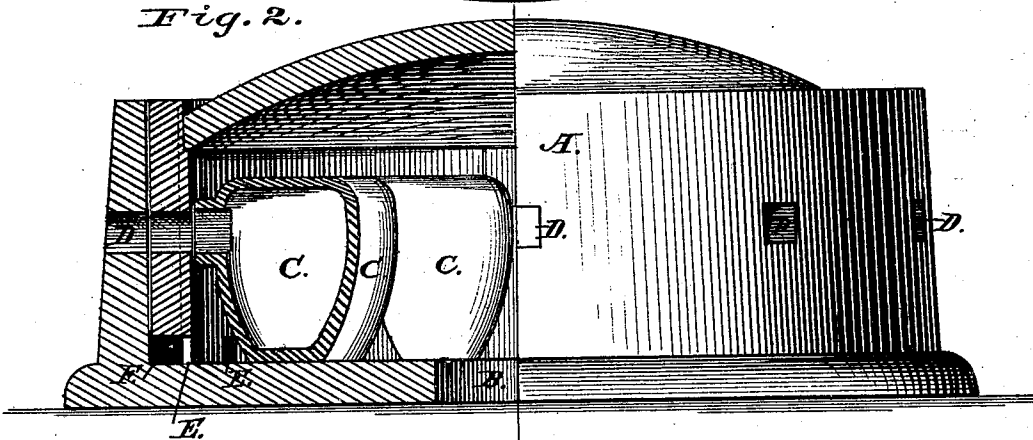


Fig. 2.



Attest:

W. L. Perrine.

W. H. Norris

Inventor:

Nicholas Snyder

Per James L. Norris
att'y.

UNITED STATES PATENT OFFICE.

NICHOLAS SNYDER, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN FURNACES FOR MELTING GLASS.

Specification forming part of Letters Patent No. **171,876**, dated January 4, 1876; application filed September 30, 1875.

To all whom it may concern:

Be it known that I, NICHOLAS SNYDER, of Pittsburg, Pennsylvania, have invented an Improved Furnace for Melting Glass, of which the following is a specification:

This invention relates to certain improvements in the construction of glass-furnaces, its object being to bring the flame from the burning fuel more thoroughly in contact with the whole exterior of the pots, for the purpose of economizing the fuel and more regularly and uniformly heating the said pots.

The glass-furnaces heretofore in use have usually been constructed with a series of flues extending from the oven or chamber in which the pots are located to flues in the sides of the furnace, communicating with the stack of the same, for carrying off the products of combustion. As thus constructed, the flames of the burning fuel first pass upwardly to the dome, and then downwardly deflected, escaping through the bottom of the oven without being thoroughly carried around the pots, and failing to heat them effectively.

My invention is designed to obviate this defect; and it consists in constructing the furnace with a series of horizontal flues, extending radially from the inner wall of the oven opposite the breast of each pot to a series of short segmental flues formed within the body of the walls of the oven, said segmental flues communicating at each end with vertical flues, which are formed in pairs within the walls of the furnace, and which extend to the top of the furnace, terminating in the stack.

In the drawing, Figure 1 represents a view showing partly a vertical section and elevation of the oven of my improved furnace, and Fig. 2 represents partly a top view and partly a horizontal sectional view of the same.

The letter A represents the oven of the furnace, constructed with an opening, B, in the center, leading from the fire-chamber below. The said oven is made circular in shape, as usual, the pots C being arranged in an annular row around the sides of the same, with

their mouths opposite the working-holes D, extending through the walls of the oven. Immediately opposite the breast of each pot, just under the opening or mouth of the same, I construct a short horizontal flue, E, extending radially into the body of the wall of the furnace, each intersecting a short horizontal segmental flue, F, formed within the body of the wall. Each of said segmental flues communicates with two vertical flues, G, terminating at their upper ends above the dome in the smoke-stack.

As thus constructed, when the fire is built in the furnace the flames and burning gases from the fuel proceed upwardly from the opening B, and, striking against the top of the same, are deflected downwardly toward the flues E, passing over and entirely around the glass-pots, heating the same thoroughly on all sides. From thence the products of combustion pass into the segmental flues F, and then into the flues G, and out of the furnace through the smoke-stack.

As the flues G are common to the ordinary glass-furnaces, in which they serve to connect the flues below the bed of the oven with the smoke-stack, it is evident that an ordinary furnace may be readily altered and improved to correspond with my invention, by filling up the flues below the bed, and constructing the radial and segmental flues as described, which can be readily done by any mechanic.

What I claim, and desire to secure by Letters Patent, is—

In combination with the oven of a glass-furnace, the horizontal radial flues E, leading from a point opposite the breast of each glass-pot, and the segmental flues F, leading to and connecting with the flues G, substantially as described.

Witness my hand this 27th day of September, 1875.

N. SNYDER.

Witnesses:

W. C. GILLMORE,
T. THOMA.