(No Model.)

U. HOUZE.

GLASS MELTING FURNACE.

No. 347,045. Patented Aug. 10, 1886.

Fig. 1.

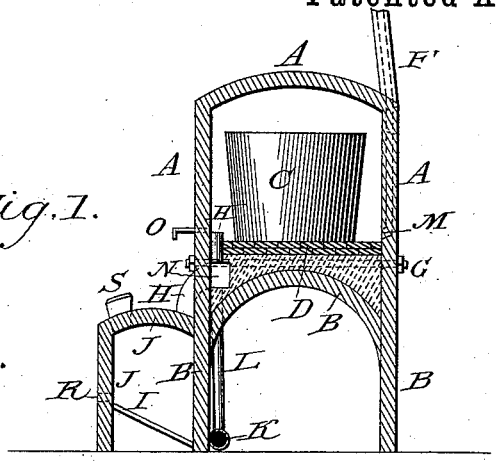


Fig. 2.

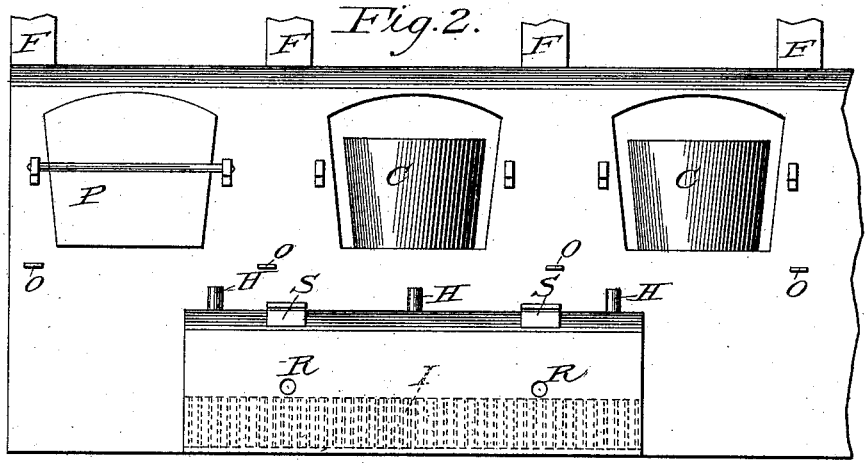
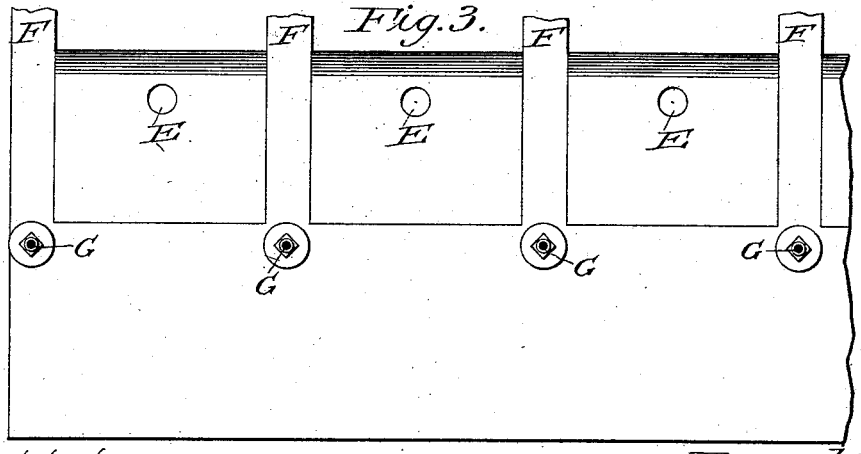


Fig. 3.



Witnesses:
Leopold Mamboury.
Charles Sterbeck

Inventor.
Ulgir Houze

UNITED STATES PATENT OFFICE.

ULGIS HOUZE, OF MEADVILLE, PA., ASSIGNOR OF TWO-THIRDS TO ARTHUR C. HUIDEKOPER AND LEOPOLD MAMBOURG, BOTH OF SAME PLACE.

GLASS-MELTING FURNACE.

SPECIFICATION forming part of Letters Patent No. 347,045, dated August 10, 1886.

Application filed April 10, 1886. Serial No. 198,499. (No model.)

To all whom it may concern:

Be it known that I, ULGIS HOUZE, a late subject of the King of Belgium, but who has now declared his intentions of becoming a citizen of the United States, residing at Meadville, in the county of Crawford and State of Pennsylvania, have invented a new and useful Improvement in Glass-Melting Furnaces, of which the following is a specification.

My invention consists in a melting-chamber where but one row of pots are held, and in front of each pot I provide a door large enough to pass the pot, and in each door an inspection-hole filled with a movable plug of fire-clay, and to each pot there is a separate jet or jets of flame or gas, said jets being regulated by a slide-valve reached from the outside. I bring the air for combustion to the jets through a tube under the heated floor of the melting-chamber, and opposite each pot I provide a "glory-hole," from which the blower takes the melted glass from pots always in the same position in the chamber.

My object is to regulate and equalize the heating of the several pots without changing their position in the chamber, and to facilitate the removal of any one when bursted or broken, to cheapen in structure, economize in fuel, and especially to save pots from destruction by over-heating. I attain these objects by the structure illustrated in the accompanying drawings, in which—

Figure 1 is a sectional end view of the melting-chamber with its coal-firing furnace at one side. Fig. 2 is a front side view of the same. Fig. 3 shows a rear view with the glory-hole E E and ends of the combustion air-tubes G G.

Similar letters refer to similar parts throughout the several views.

The chamber-walls A A are a continuation of the walls B B.

C is a melting-pot.

D is the floor of the melting-chamber; E, glory-hole; F, chimney; G, tube to supply air for combustion and bind the wall and floor-arch.

H H is flame-tube from furnace to melting-chamber; I, grate-bars to furnace; J, wall and arch to furnace where coal is first fired into flame before it enters the melting-chamber.

K is a main for natural gas.

L is a pipe to conduct gas to melting-chamber, where it can be substituted for the flame from the furnace, or used in connection with it.

M is the opening from the melting-chamber into chimney F.

N is a main in the floor, running the entire length of the chamber to receive and distribute the flame or natural gas to the several jets at the pots.

O is a slide-gate over each tube to regulate the flow of flame or gas.

P is a closed door with its inspection-hole closed with plug Q.

R is hole to stir up the coal in furnace.

S is dumping-hole for feeding coal from top of furnace.

The walls, arch, floor, and doors are all made of fire-clay.

Heretofore glass-melting furnaces have been built with chambers wide enough for three rows of pots—to wit., a row on each side and room in the center for the passage of any pot that may require removal which has to be passed in or out centrally at the end, which is often a work of great difficulty, and if any pot gets too hot or too cold it has to be moved to a new position to equalize it to proper temperature. Chambers thus constructed require arches of great strength and cost to be flat enough to get the full benefit of the heat. I aim to remedy these defects by making my melting-chamber wide enough for only one row of pots, with a door directly in front of each pot, with a jet or jets of flame or gas, or both, to each pot, regulated by a slide valve or gate reaching through the wall and operated from the outside.

To supply air for combustion, I lay pipes in the floor of the chamber, (see G,) which, having nuts at both ends, answer the double purpose of binding the floor-arch, and, being perforated near the jet H and plugged at the inner ends, supply air to the several jets through the heated floor of the chamber. The main N, through the floor D, reaches from end to end of the chamber, with one or more jets to each pot. The flame is introduced at the bottom ot the chamber, and after filling the chamber escapes into the chimney F at the opening M, near the floor. I have a main for natural gas,

K, with tubes L to feed the jets at H, so that I can use either or both, as desired.

My furnace is supplied with coal through the dumping-holes S from the top of arch J, and the fire is stirred through the holes R R, Fig. 2. The grate-bars are set at an angle, so the coal tends toward the wall B as it consumes. There is a glory-hole to each pot as it stands in position in the chamber.

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

A glass-melting furnace or chamber wide enough for only one row of pots, with a main, N, for gas or flame, running from end to end under the chamber-floor, supplied with air for combustion by the pipes G, entering said main at right angles, perforated with holes near their closed ends, where they pass through the main N, substantially as described, and for the purpose specified.

ULGIS HOUZE.

Witnesses:
LEOPOLD MAMBOURG,
JACQUES BOIS.