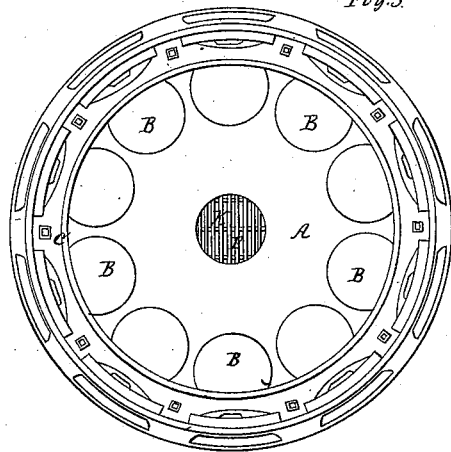
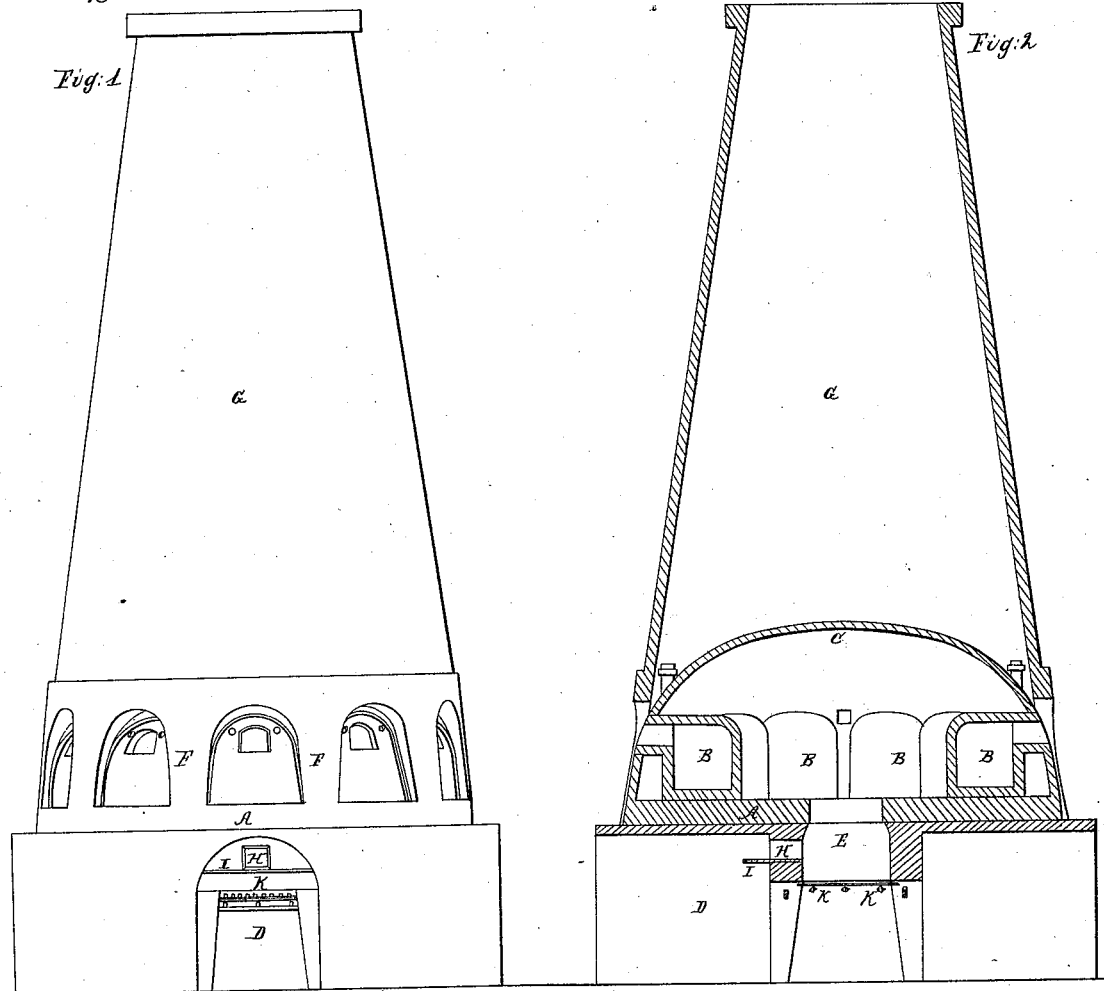


*T. Leighton,
Glass Furnace.*

N^o 4,770.

Patented Sep. 19, 1846.



UNITED STATES PATENT OFFICE.

THOS. LEIGHTON, OF EAST CAMBRIDGE, MASSACHUSETTS, ASSIGNOR TO NEW ENGLAND GLASS CO.

GLASS-FURNACE.

Specification of Letters Patent No. 4,770, dated September 19, 1846.

To all whom it may concern:

Be it known that I, THOMAS LEIGHTON, of East Cambridge, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Glass-Furnaces; and I do hereby declare that the nature of the same is fully set forth and represented in the following description, accompanying drawings, letters, figures, and references thereof.

Of said drawings Figure 1 denotes a front elevation of my improved glass furnace. Fig. 2 a central and vertical section of it taken in a longitudinal direction through the cave or gallery belonging to the same and Fig. 3 a horizontal section taken through the reverberatory arch.

The nature of my improvement consists in the manner in which in respect to the siege pots and care of the furnace. I arrange the opening through it is supplied with fuel.

In the drawings A represents the siege; B B B, &c., the melting pots; C, the reverberatory dome or arch, and D the cave of the furnace—they being arranged with respect to one another as in most other glass-furnaces of the kind.

The melting pots B B, &c., rest upon the floor or siege and around the fireplace E as denoted in Figs. 2 and 3. In the glass furnaces as heretofore used the fireplace has been constructed as a square or other proper shaped chamber, or depression made beneath and through the siege and terminating directly over the cave or gallery passing beneath it and being separated from said cave or gallery by grate bars upon which the fuel rested. The mode of supplying such a furnace with fuel has been through a small passage way made through one of the brick piers F F, &c., of the main chimney G and even with or just above the top surface of the floor or siege A. The coal or fuel when to be introduced into the fireplace had to be thrown through said opening and between two of the pots and over the siege.

In my improved furnace I extend the fireplace far enough below the top of the arch

of the cave to admit of the fire opening being made in its side and in the cave as seen at H in Figs. 1, 2. Just below the exterior of the said opening or on a level with its bottom I extend a shelf I across the cave as seen in the drawings. The grate bars are exhibited at K K. By the aforesaid improved mode of arranging the fire place opening for the supply of fuel in the cave and below the top of the siege of the furnace I obtain the following very important advantages. 1. The coal being introduced below the top surface of the siege and directly into the furnace, does not pass over the siege and therefore is not liable to be deposited thereon and around and between the melting pots, so as to form clinkers about them and upon the siege, a serious difficulty experienced in the old furnaces and particularly whenever it becomes necessary to remove any of the melting pots and insert another in its place. 2. The siege will last much longer as the fuel does not rest upon it. 3. An economy of room is effected by which another or small pot can be added to the furnace. 4. There is a considerable saving in fuel. 5. The usual rush of cold air through the coal opening and its effects upon the contiguous melting pots are prevented. 6. I get rid of coal in the glass house or room around the furnace thus obviating the trouble arising from the dust which escapes when the furnace is charged, or at other times, and settles upon the floor and upon the mangers or iron tables upon which the workmen roll the glass.

Having thus described my invention that which I claim is—

My improved mode of arranging the tease hole or fuel opening of the fire place with respect to the siege and the cave of the furnace—viz. the placing it below the siege and in the cave substantially as above specified.

In testimony whereof I have hereto set my signature this twenty eighth day of March, A. D. 1846.

THOS. LEIGHTON.

Witnesses:

R. H. EDDY,
JOSEPH N. HOWE, Jr.