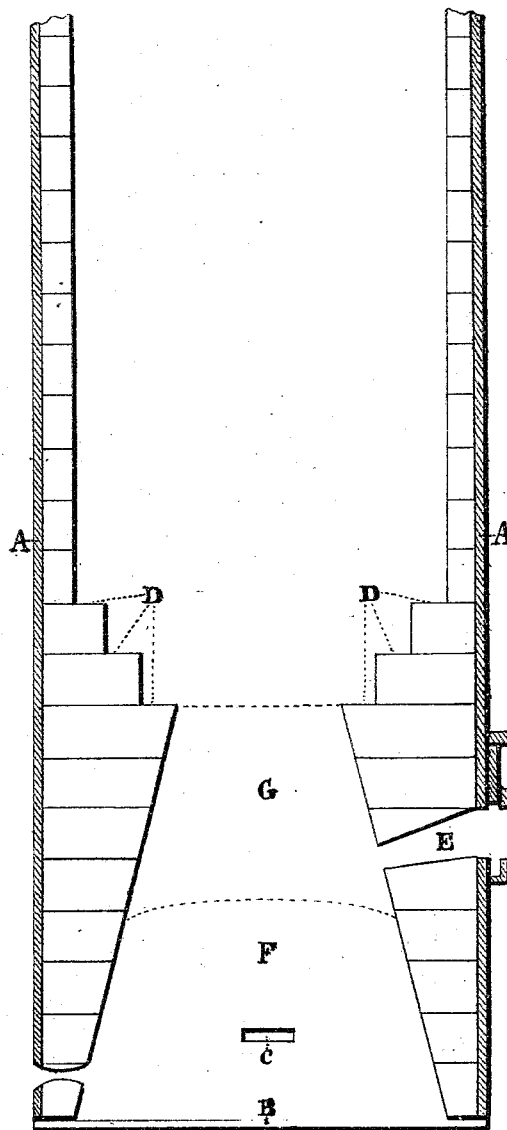


A. G. COOK.

Improvement in Cupola Furnaces.

No. 115,823.

Patented June 13, 1871.



Longitudinal Section

Witnesses { *Edmund Brown* *Anson, G. Cook* *Inventor*
G. L. Warner

UNITED STATES PATENT OFFICE.

ANSON G. COOK, OF BURLINGTON, VERMONT.

IMPROVEMENT IN CUPOLA-FURNACES.

Specification forming part of Letters Patent No. 115,823, dated June 13, 1871.

I, ANSON G. COOK, of Burlington, in the county of Chittenden and State of Vermont, have invented certain Improvements in Cupola-Furnaces, of which the following is a specification:

Nature and Objects of the Invention.

The first part of my invention relates to a bed within the cupola-furnace, formed by contracting the inner lining and then receding; the objects of this part of my invention being to make a bed upon which to lay the iron; to be able to burn bituminous, soft, and hard coal, and all other fuel; to concentrate the heat at the center of the cupola; to form a fire and gas chamber below the iron; to raise the iron above the fire and allow the gas to ignite before passing through the iron. The second part of my invention relates to the combination with the first part, for the objects therein set forth, of one or more apertures through the shell and lining of the cupola-furnace, which apertures are furnished with a door or doors, so that they can be closed; the objects of this part of my invention being to be able to supply the fire with fuel at any time, and in such quantities as is desired; to be able to keep the fire, and therefore the furnace, completely under the control of the operator; to be able to heat the iron very slowly by controlling the fire, therefore annealing it to any extent; to be able to keep the furnace in operation an indefinite length of time.

Description of the Accompanying Drawing.

It is a longitudinal section of a cupola-furnace embodying my invention.

General Description.

A A represent the shell; B, the bed-plate; and C, one of the tuyeres of any common cupola. D D represent the stationary bed, for the purposes hereinbefore set forth. It is constructed of fire-brick, by beginning at the bed-plate or above, and gradually contracting the inner lining to a point sufficiently above for the purposes hereinbefore set forth, and then receding by one or more offsets or otherwise. The iron is introduced from the top of the cupola before the fire is built, and rests entirely upon this bed. Iron can be added after the fire is built, as in any common cupola. E represents an aperture through the lining and shell, which is sufficiently large to admit of the introduction of fuel to the fire. It is closed by a door. F represents the place for the coal-bed. G represents the space between the coal-bed and iron, where the gas is ignited before passing through the iron.

Claims.

I claim as my invention—

1. The bed D D, substantially as and for the purposes hereinbefore set forth.
2. The combination, with the bed D D, of one or more apertures, as E, substantially as and for the purposes hereinbefore set forth.

ANSON G. COOK.

Witnesses:

EDMUND BROWN,
G. L. WARNER.