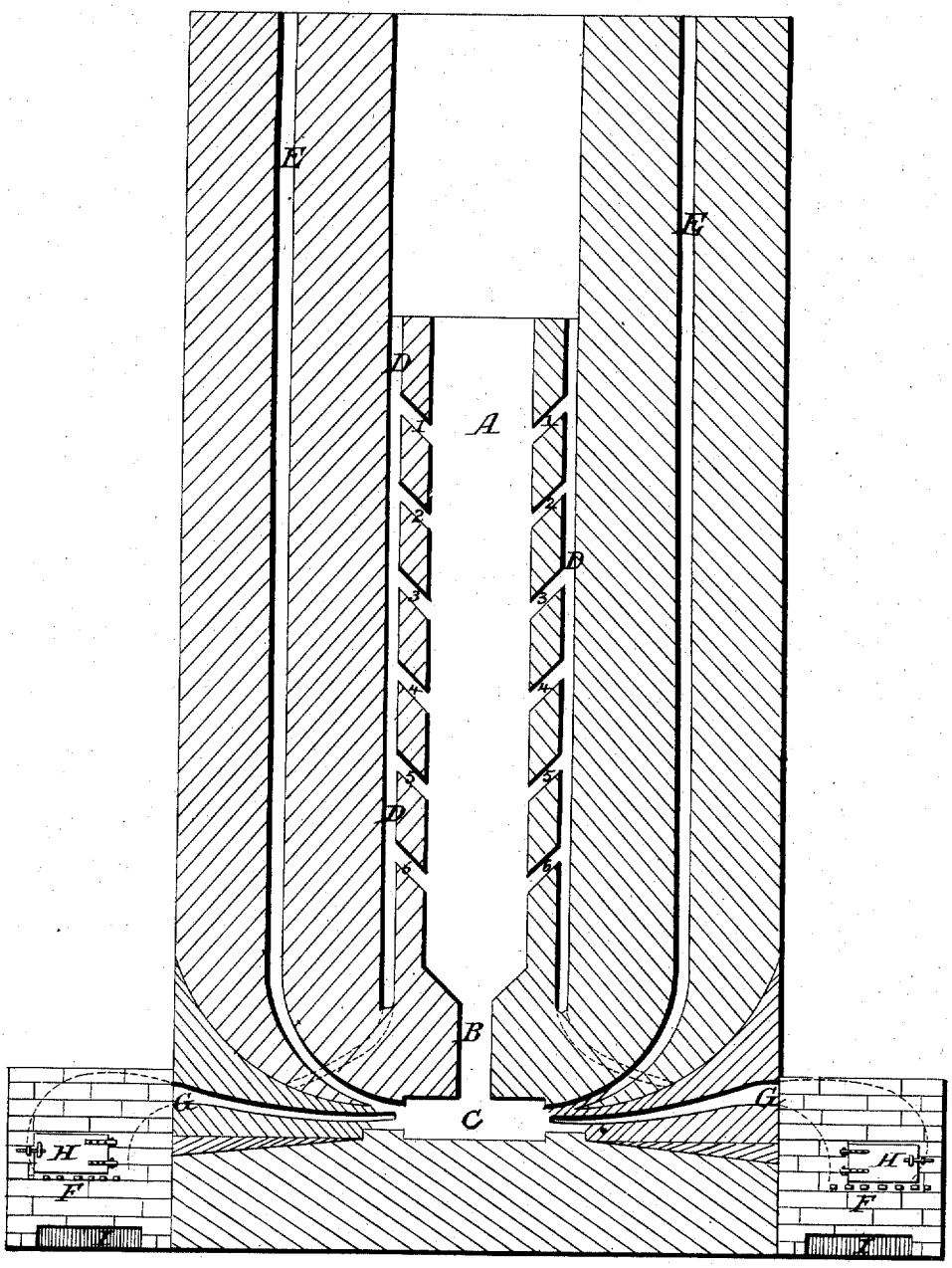
7078X

T. GREGG.

Refining Iron.

Patented May 22, 1832.



N. PETERS, Photo-Lithographer, Washington, D. C.

7078X May 22. 1837

Thomas Gregg, of Fayette County, Pennsylvania

Letters Patent.

The Schedule referred to in these Letters Patent and making part of the same, containing a description in the words of the said Thomas Gregg himself of his improvements in the construction of a Blast furnace for smelting Iron Ore

Be it known that I Thomas Gregg, of Connellsville Township in the County of Fayette, & State of Pennsylvania, have invented a new and useful improvements in the erection of a smelting Blast Furnace particularly adapted for the manufacture of pig Metal, and that the following is a full & exact description of the construction & operation of the said furnace as invented by me.

The superstructure or main building of said furnace to be erected of stone from 18 feet square at the base to any dimension required the size to be regulated by the quantity of metal to be made, the height of the same to be 30 feet or upwards, the interior of the furnace to be lined with fire stone, or fire brick, the cavity for the reception of the mineral to be in a circular form, three feet in diameter at what is denominated the hearth widening gradually as it ascends to three & a half feet at the throat or tunnel head. Within the body of the said superstructure will be two air flues or holes inches wide at the base widening upwards to four inches, the object of said flues is to create a draught for two small furnaces to be erected on one side of the main superstructure which will be denominated generating furnaces. The object of which said generating furnaces is to create a flame which is to be brought in contact with the blast at the tuyere thereby the aid of said blast to be conveyed into the cavity of the furnace. The introduction of the flame into the furnace as above described is intended to operate as a preventive to the collection of all offensive matter that collects at times of furnaces worked in the usual way, but it gives no superior fuel saving in the decomposition of the minerals, more facilitates

1078X

facilitate the operation of smelting & separating the air & fumes from the drosses. Horse shovel flues will be erected upon the inner walls from the hearth of the hearths, one for each shovel flue there will be several Cast iron flues tapping into the interior recesses of the furnace at an angle of forty five degrees leading to the ignited fuel. The object of the said flues is to better to enable all sulphureous and other offensive & pernicious gases nothing become disengaged to make their escape. The drawings required for the gentlemen furnaces will be regulated by what is denominated dampers placed within the chimnies. The materials used in smelting will be iron ore, limestone, brick & coal or coke made from bituminous or anthracite coal. The proportion to be regulated by the quality of each material. The blast required for said furnace to be produced by one or more cylinders or blowing tubes, which are to be propelled by steam or water power.

Witnesses
Abm. Brokaw
Henry H. Seery

Thomas Gregg.

[572 words