No. 830,591. PATENTED SEPT. 11, 1906.

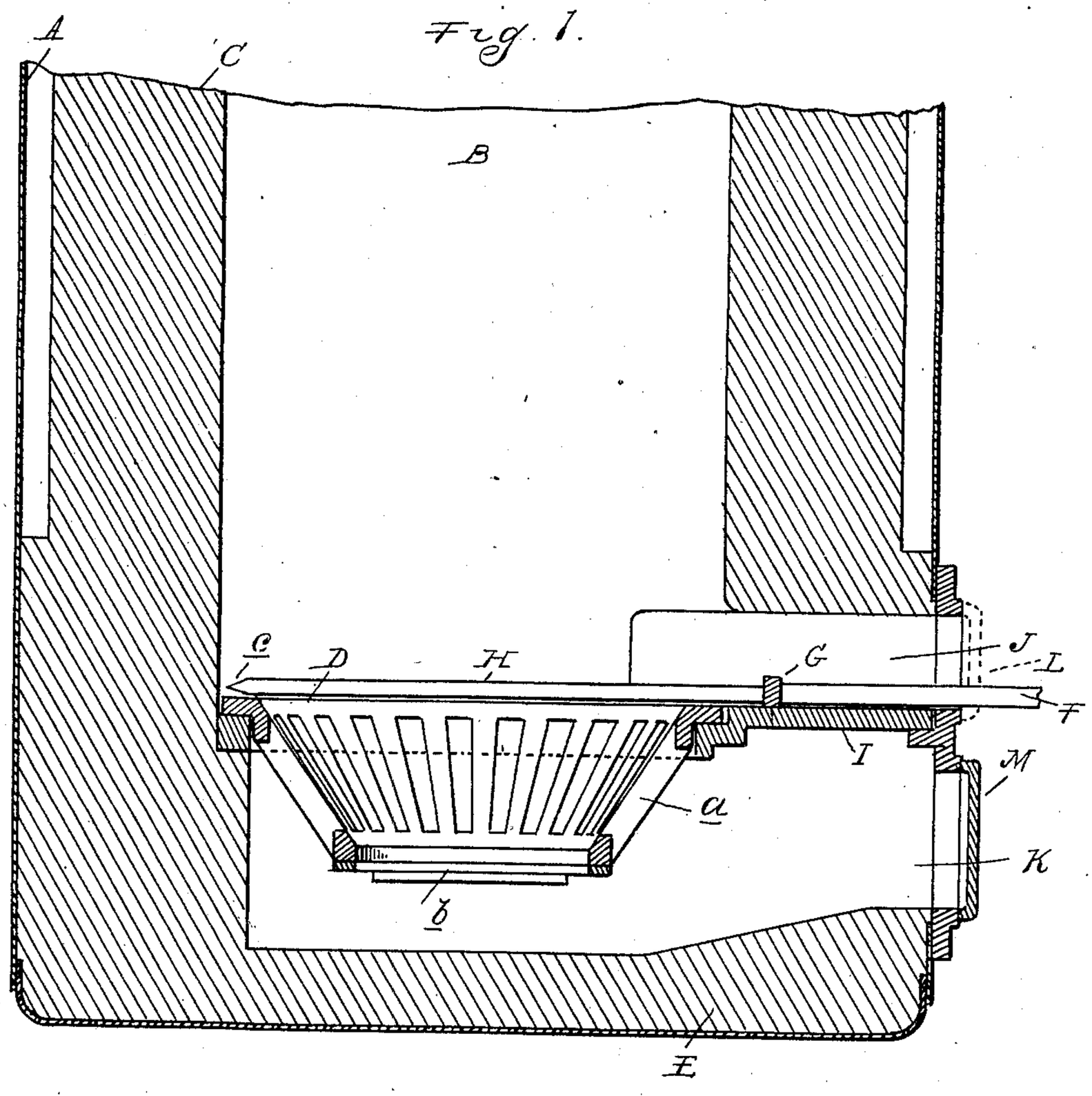
R. HILPRECHT.

GRATE FOR GAS PRODUCERS.

APPLICATION FILED JUNE 26, 1905.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses
A. L. Hobby
Julia Williams

Inventor
Robert Hilprecht
By James Whittemore
Atty.

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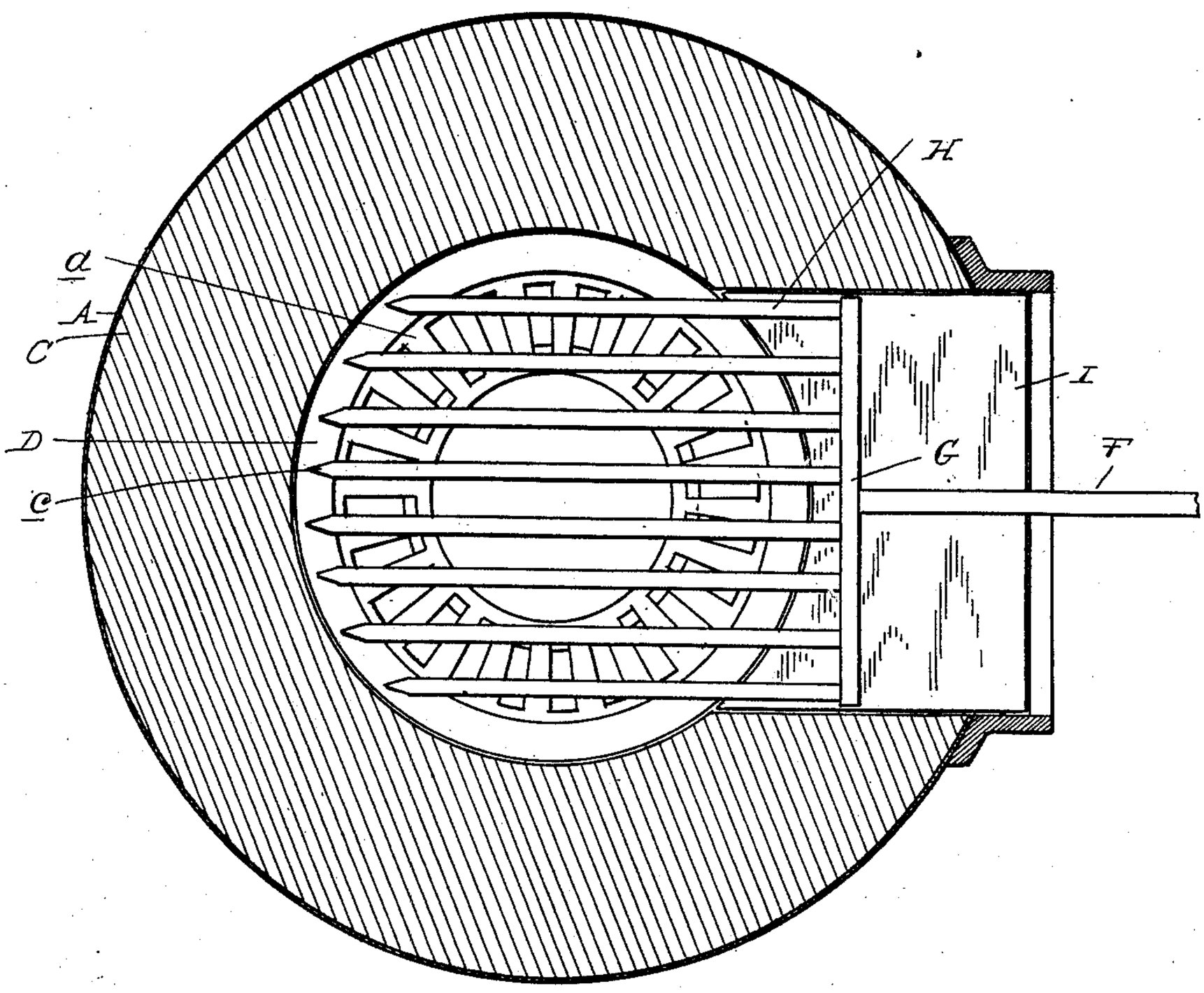
2 SHEETS—SHEET 2.

Fig. 2.



Witnesses
A. L. Habby
Amelia Hilbrecht

Inventor
Robert Hilprecht
by James Whittemore
Atty

UNITED STATES PATENT OFFICE.

ROBERT HILPRECHT, OF LANSING, MICHIGAN, ASSIGNOR TO AMERICAN SUCTION GAS PRODUCER COMPANY, OF LANSING, MICHIGAN, A CORPORATION OF MICHIGAN.

GRATE FOR GAS-PRODUCERS.

No. 830,591. Specification of Letters Patent. Patented Sept. 11, 1906.

Application filed June 26, 1905. Serial No. 267,135.

To all whom it may concern:

Be it known that I, ROBERT HILPRECHT, a subject of the German Emperor, residing at Lansing, in the county of Ingham and State of Michigan, have invented certain new and useful Improvements in Grates for Gas-Producers, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to gas-producers, and more particularly to a construction of grate for supporting the fuel within the gas-generator; and the invention consists in the peculiar construction of an auxiliary grate for temporarily supporting the fuel, permitting of the cleaning or dumping of the main grate, and, further, in the peculiar construction of parts, as hereinafter set forth.

In the drawings, Figure 1 is a vertical central section through the lower portion of a producer to which my improvements are applied. Fig. 2 is a horizontal section thereof.

A is the casing, containing a fuel-chamber B and provided with a lining C, of fire-brick or other refractory material.

D is the main fuel-supporting grate, which preferably is of the basket form shown and is arranged above the hearth E. This grate is preferably provided with the annular hopper-shaped portion *a* and the central horizontal portion *b*, the latter being removable for the purpose of dumping the grate.

In order that the grate may be occasionally cleaned from accumulation of clinker without disturbing the incandescent mass of fuel thereabove or losing any of the unconsumed fuel, I have provided an auxiliary grate which may be inserted above the main grate to temporarily support the fuel. As shown, this auxiliary grate is of trident form—*i. e.*, a single handle-bar F has secured thereto the cross-bar G, from which projecting laterally is a series of parallel prongs or grate-bars H. The ends of these prongs are preferably sharpened, as at *c*, so as to facilitate the forcing of the grate through the mass of fuel. To permit of inserting the auxiliary grate, a shelf I is arranged at substantially the level of the upper end of the main grate, extending to an opening J in the casing, which is above the opening K of the ash-pit, these openings being, respectively, normally closed by detachable covers L and M.

With the construction described in normal operation the fuel is supported by the grate D, and the ashes are removed by the shaking of said grate or the withdrawal of the horizontal portion of the grate *b*. Whenever there is an accumulation of clinker which cannot be readily removed by this method, the auxiliary grate is inserted through the opening J, and the sharp pointed prongs are pressed through the mass of fuel in a plane just above the shelf I. When the auxiliary grate is thus inserted, the cross-bar G will rest upon the plate I, and the ends of the prongs will rest upon the upper edge of the opposite side of the grate D. The flat grate-section *b* may then be removed, all the clinker dislodged from the grate D and removed while the mass of fuel is supported upon the auxiliary grate.

What I claim as my invention is—

1. In a gas-producer the combination with a casing having an opening in one side and containing a fuel-chamber, of a shelf therein, a basket-grate adapted for rotation and supported on said shelf, said shelf having an integral extension projecting through said opening in said casing flush with the top of said grate, and an auxiliary grate adapted to be inserted through said opening and supported on said shelf extension and said basket-grate to temporarily support the fuel.

2. In a gas-producer the combination with a casing containing a fuel-chamber and having an opening in one side, of an annular shelf in said casing having an integral extension passing through said opening, a basket-grate adapted for rotation and supported on said shelf and having its top flush with said extension, and an auxiliary grate supported on said extension and basket-grate, substantially as described, to temporarily support the fuel.

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT HILPRECHT.

Witnesses:

AMELIA WILLIAMS,

EDWARD D. AULT.