No. 824,353. PATENTED JUNE 26, 1906.

H. GERDES.

GAS PRODUCER.

APPLICATION FILED JULY 31, 1905.

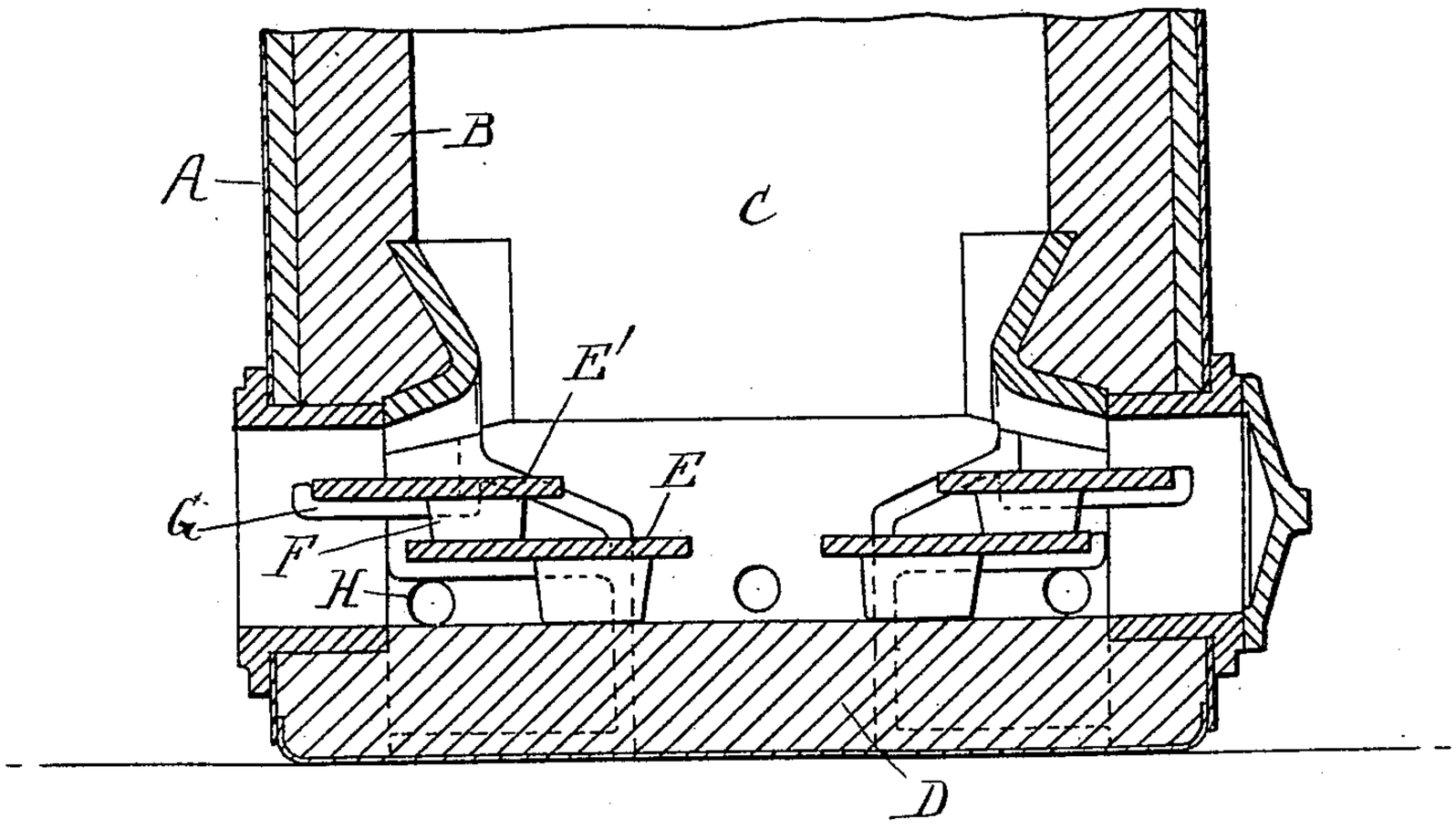

Fig. 1.

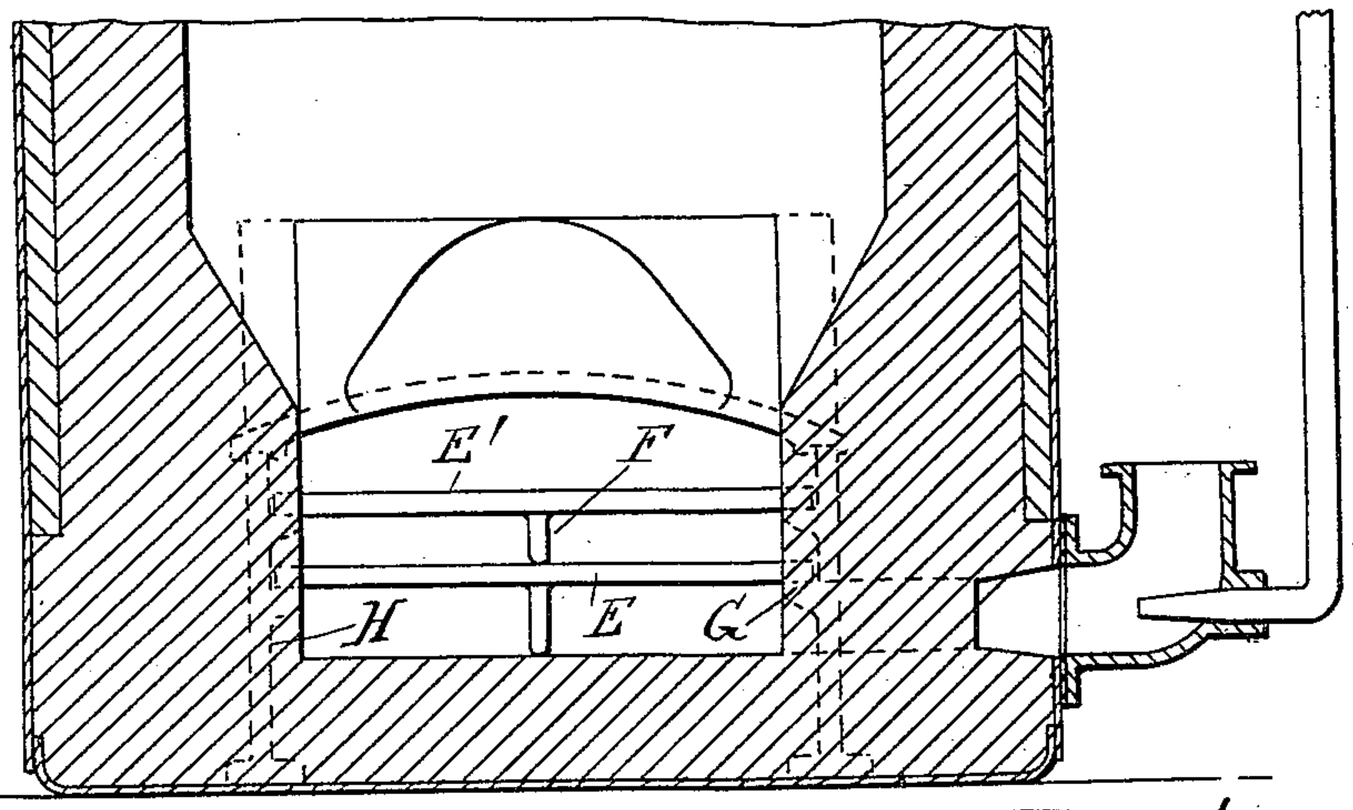

Fig. 2.

Witnesses:
Edward H. Hudt.
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UNITED STATES PATENT OFFICE.

HEINRICH GERDES, OF BERLIN, GERMANY, ASSIGNOR TO AMERICAN SUCTION GAS PRODUCER COMPANY, OF LANSING, MICHIGAN, A CORPORATION OF MICHIGAN.

GAS-PRODUCER.

No. 824,353. Specification of Letters Patent. Patented June 26, 1906.

Application filed July 31, 1905. Serial No. 272,058.

To all whom it may concern:

Be it known that I, HEINRICH GERDES, a subject of the German Emperor, residing at Berlin, in the Empire of Germany, have invented certain new and useful Improvements in Suction Gas-Producers, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to gas-producing apparatus of that type commonly known as "suction" gas-producers; and the invention consists more particularly in the novel construction of grate for supporting the fuel from which the gas is generated, as hereinafter set forth.

In the drawings, Figure 1 is a vertical central section through the lower portion of a gas-producer, and Fig. 2 is a similar section taken in a plane at right angles to Fig. 1.

A is a casing provided with a suitable lining B of firebrick or other refractory material, within which is formed the fuel-chamber C, in which the combustion and decomposition resulting in the production of the gases takes place.

D is a hearth extending across the casing beneath the chamber C.

To support the fuel within the chamber C, I have devised a peculiar construction of grate, which serves both to support the fuel and to furnish a free inlet-passage for the air and vapor used in the gas production. This grate as preferably constructed comprises a series of horizontally-arranged transverse plates E, each of which is provided with a depending supporting-lug F, centrally arranged near the inner edge. The opposite ends of the grate are supported on the guide-flanges G, which are preferably secured to metallic standards H, suitably secured and resting on the hearth D. The lower plates E are preferably arranged with their depending lugs F supported directly upon the hearth and approach within a short space of each other. Above these lower plates are the superposed plates E′, the depending lugs F of which rest upon the lower plates E. The arrangement is such as to produce a series of steps, the lowermost being the hearth, and above this the succeeding plates, so that the mass of fuel within the chamber C is tapered downwardly, and between each of the stepped plates is a lateral inlet-passage for the air and vapor. With a grate thus constructed a free passage for the air and vapor into the mass of fuel is at all times afforded, and whenever ash or clinker accumulates it may be easily removed by drawing it outward either upon the hearth or one of the stepped plates.

What I claim as my invention is—

1. In a gas-producer the combination with a casing forming a fuel-chamber therein and a hearth extending beneath said chamber, of standards resting upon said hearth on opposite sides of said casing, guide-flanges on said standards, and horizontal plates having their ends resting on said guide-flanges and extending transversely of said casing, for the purpose described.

2. In a gas-producer the combination with a casing forming a fuel-chamber therein and a hearth extending beneath said chamber, of standards resting upon said hearth on opposite sides of said casing, guide-flanges on said standards, of a series of horizontal plates having their ends resting on said guide-flanges and extending transversely of said casing on opposite sides of the center thereof, for the purpose described.

3. A gas-producer comprising a casing containing a fuel-chamber and a hearth extending beneath the same, of standards resting upon said hearth on opposite sides of said casing, guide-flanges on said standards, and oppositely-arranged series of transversely-extending horizontal plates arranged in different planes above said hearth and upon opposite sides of the center thereof and having their ends resting upon said guide-flanges, whereby the fuel within the chamber is afforded a stepped support with laterally-extending air-inlet passages between the steps.

4. In a gas-producer, the combination with a casing containing a fuel-chamber and a hearth extending beneath the same, of the horizontally-arranged plates E and E′ each provided with a central depending supporting-lug F near its inner edge, said plates being arranged in steps from the center to the side of the fuel-chamber.

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

HEINRICH GERDES.

Witnesses:
WOLDEMAR HAUPT,
HENRY HASPER.