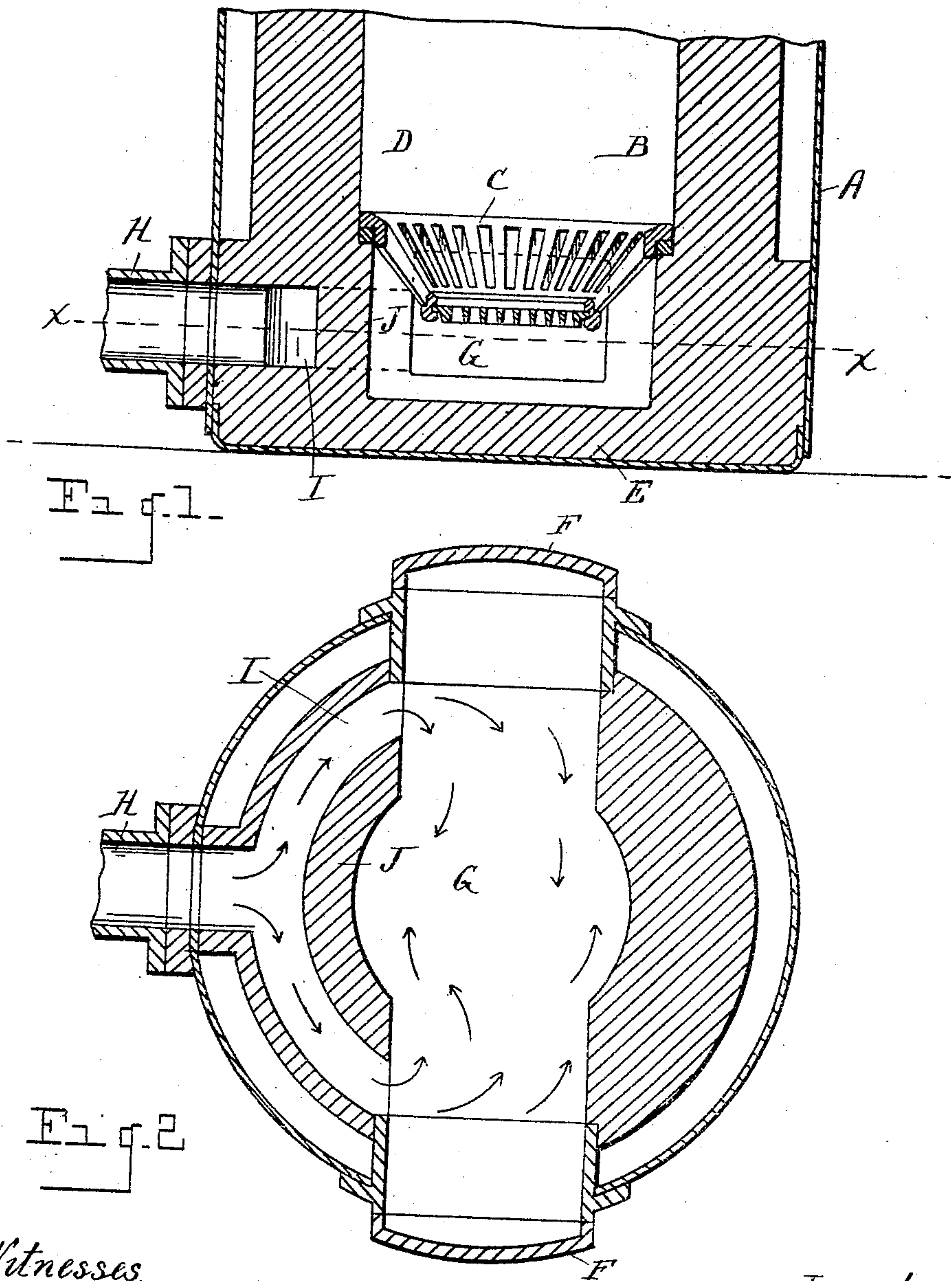


No. 824,358.

PATENTED JUNE 26, 1906.

E. HIGGINS.  
SUCTION GAS PRODUCER.  
APPLICATION FILED AUG. 6, 1905.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

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## SUCTION GAS-PRODUCER.

No. 824,358.

Specification of Letters Patent.

Patented June 26, 1906.

Application filed August 5, 1905. Serial No. 272,858.

*To all whom it may concern:*

Be it known that I, EUGENE HIGGINS, a citizen of the United States, residing at Lansing, in the county of Ingham and State of Michigan, 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 suction gas-producers; and it consists in certain novel features of construction, as hereinafter set forth.

In the drawings, Figure 1 is a vertical longitudinal section through the lower portion of the producer. Fig. 2 is a cross-section on line *x x* of Fig. 1.

A is the casing of the producer, which is provided with the usual fire-brick lining B.

C is the grate for supporting the fuel within the combustion-chamber D, and this grate, as shown, is of basket form.

It is important in the operation of producers of this kind to obtain a uniform burning of the fuel adjacent to all portions of the grate. Inasmuch, however, as the air-inlet conduit is usually at one side of the chamber beneath the grate the air entered there-through will take the shortest path, and as a consequence the combustion is more active upon one side of the grate than upon the other. This will result in the more rapid consumption of the fuel on the side of the air-inlet. To avoid the objectionable result just stated, I have constructed the base portion of my producer so as to avoid the admission of the air at one side of the grate and to distribute the air with practical uniformity over the entire grate area. As shown, E is the hearth-plate, and F is the door through which the ashes may be removed from the hearth.

G is the chamber beneath the grate, which preferably extends from the door F completely across the space within the outer shell A of the casing.

H is the inlet for the air and vapor which is preferably arranged at a point midway between the opposite ends of the chamber G at one side of the casing. Connecting with this inlet H is a semi-annular passage I, which is separated from the chamber G by the segmental baffle-plate J, the latter forming a

part of the supporting-wall for the lining B. The opposite ends of the semi-annular passage I are at the opposite ends of the chamber G adjacent to the outer shell of the casing, and as a result the incoming air-current will be divided to pass oppositely from the inlet to said discharge-openings and in a circumferential path. This will distribute the air with practical uniformity at all portions of the grate-surface both at the bottom and the sides thereof.

What I claim as my invention is—

1. In a suction gas-producer, a casing containing a combustion-chamber, a grate in the lower part of said chamber and an ash-pit chamber extending diametrically across said casing beneath said grate, said casing having a horizontal air-inlet passage and a horizontal segmental air-passage connecting with the opposite ends of said ash-pit chamber and connecting with said inlet-passage, for the purpose described.

2. In a suction gas-producer, a casing containing a combustion-chamber, a grate of basket form and an ash-pit chamber having a central portion surrounding said grate and diametrically opposite extensions to the wall of the casing, said casing having a horizontal air-inlet passage and a horizontal semi-annular air-passage centrally connected with said inlet and discharging into the opposite extensions of said ash-pit chamber, for the purpose described.

3. In a suction gas-producer, a casing having a fire-lining inclosing a combustion-chamber and a grate for supporting the fuel within said chamber, said casing having an ash-pit chamber below said grate extending laterally at diametrically opposite points through said lining to the wall of said casing, and a segmental baffle-plate forming a portion of the supporting-wall for said lining and forming a semi-annular air-passage around the central portion of said ash-pit chamber, said air-passage having outlet at its ends into said ash-pit extensions and having a central inlet.

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

EUGENE HIGGINS.

Witnesses:

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JOHN BELL.