

No. 798,500.

PATENTED AUG. 29, 1905.

C. ELLIS.  
GAS PRODUCER.  
APPLICATION FILED MAY 11, 1906.

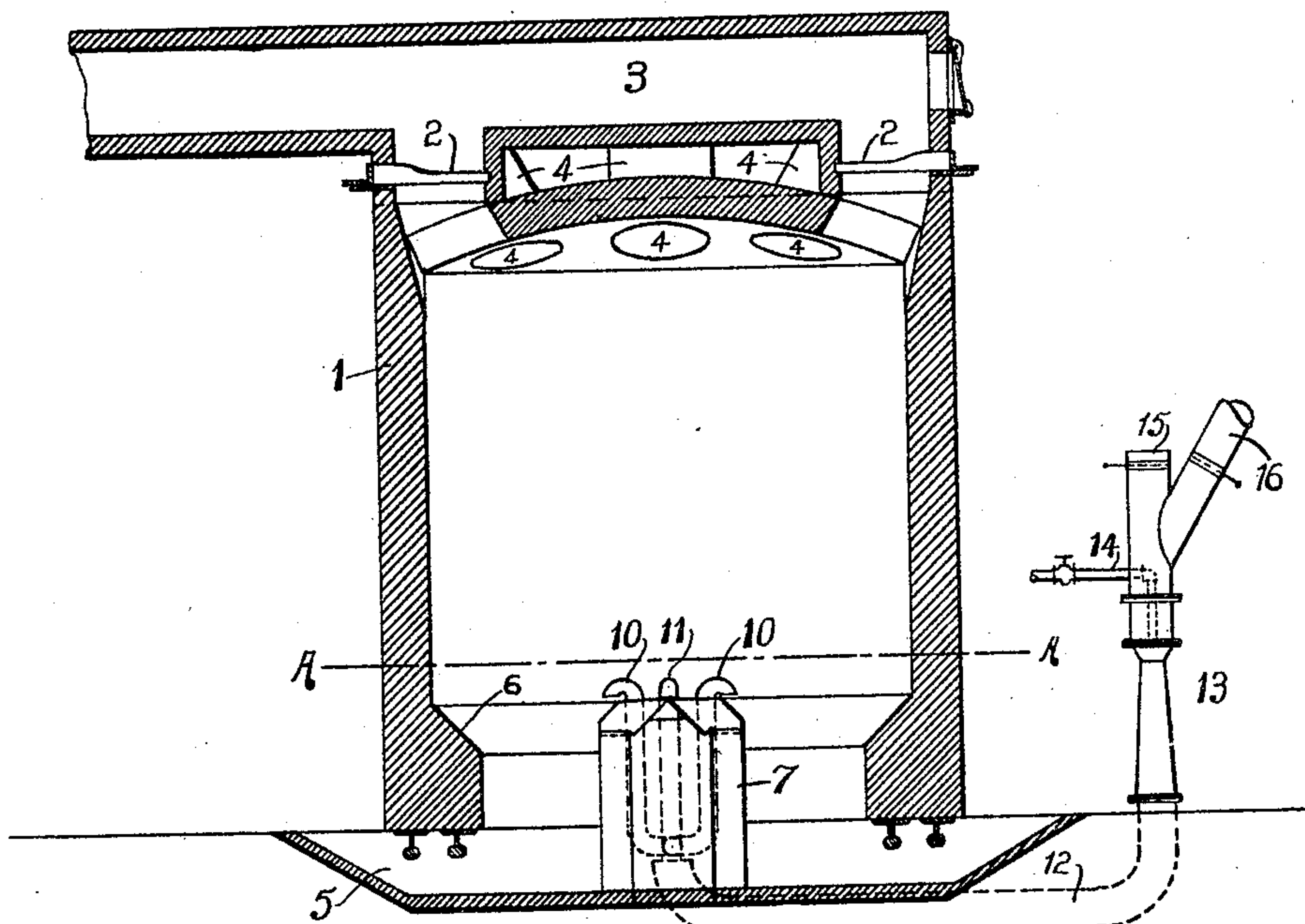


Fig. 1.

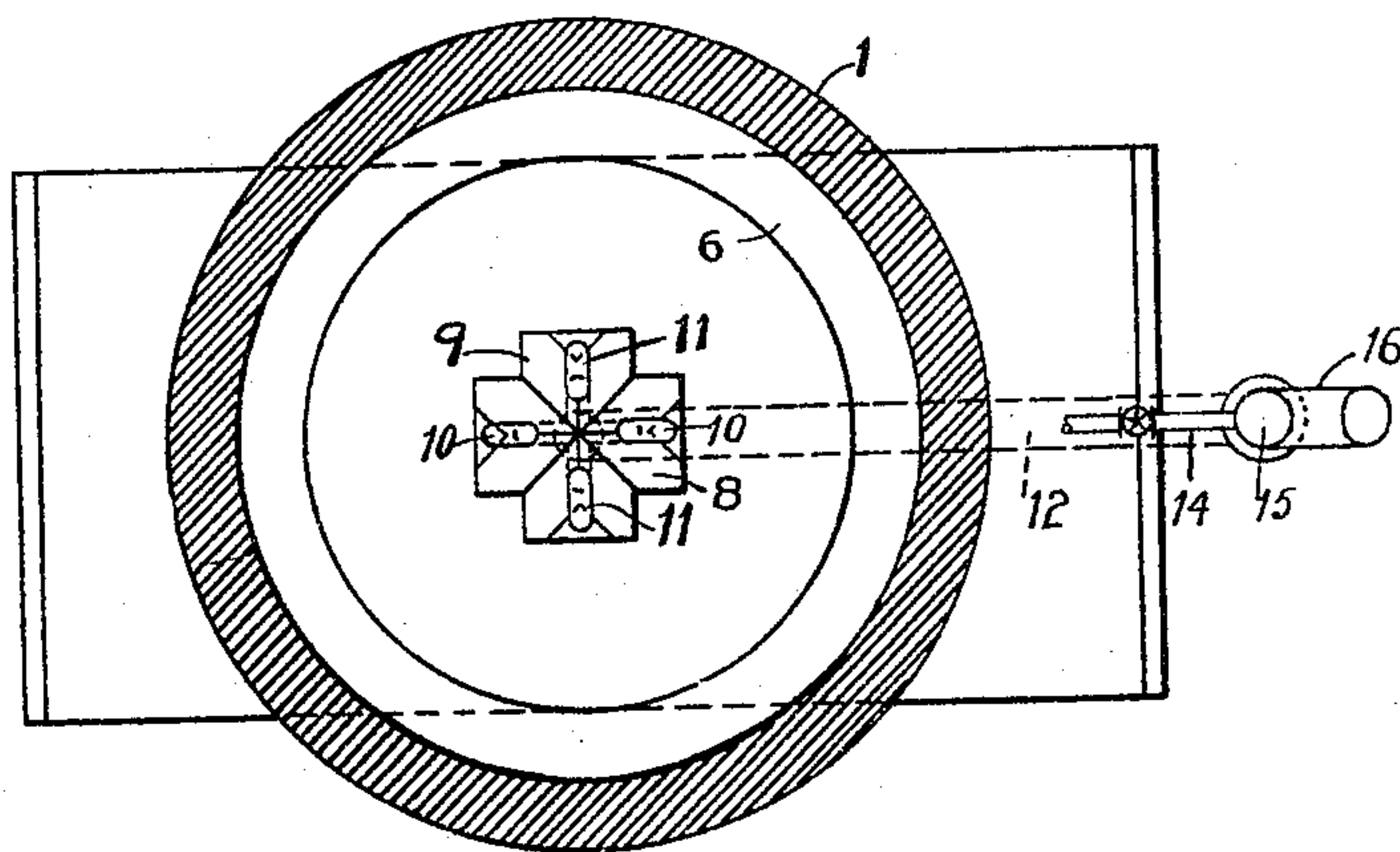


Fig. 2.

WITNESSES:

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Carlton Ellis



# UNITED STATES PATENT OFFICE.

CARLETON ELLIS, OF NEW YORK, N. Y., ASSIGNOR TO ELDRED PROCESS COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

## GAS-PRODUCER.

No. 798,500.

Specification of Letters Patent.

Patented Aug. 29, 1905.

Application filed May 11, 1905. Serial No. 259,927.

*To all whom it may concern:*

Be it known that I, CARLETON ELLIS, a citizen of the United States, and a resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Gas-Producers, of which the following is a specification.

This invention relates to improvements in gas-producers of the water-seal type; and the object of my invention is to provide a method for the introduction of the air-blast which will allow of the production, from producers of large dimensions, of combustible gas of uniform composition and of high quality and which will also distribute the air in such a way that the present large losses in fuel through the presence of unburned carbon in the ash will be avoided. I attain these objects by the apparatus illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of the entire apparatus, and Fig. 2 a horizontal section along the lines A A of Fig. 1.

In the drawings, 1 is the producer-shell, supplied with the dampers 2 for admitting combustible gas into the outlet or gas-main 3.

At 4 are shown hoppers for the introduction of coal or other fuel employed.

5 is a water seal.

At 6 is shown a shoulder which assists in preventing the passage of the air-blast up along the walls of the shell 1.

7 is a blast-baffle. Referring to Fig. 2, it will be seen that this baffle is in the form of a cross, the arms 8 9 of which have sloping sides and act as deflectors and distributors of the blast. In each of the arms of this baffle are located the twyers 10 10 and 11 11, which connect with the blast-pipe 12.

At 13 is shown a steam-blower in which is situated the steam-jet 14.

15 is an air-inlet. At 16 is shown a passage which may lead to a source of products of combustion. Dampers are placed in each of these passages in order that air or products of combustion, or both, may be used in such amount as is desired to effect the proper control of the gas-producer temperature and prevent the formation of slag and clinker. The arrangement of the twyers is such that the gas is deflected and distributed throughout the fuel. Its uniform distribution over a large area is possible. Hence the present invention admits of a construction of a producer of

large dimensions—such, for instance, as is de-

manded at the present time in the operation of burning cement and in other industries where a single producer must gasify a large amount of coal.

My method of operation is as follows: A deep fire is built in the producer and a blast introduced by opening the steam-jet 14. Air or products of combustion, or both, are drawn in by the suction or inductive action of the jet and enter the lower part of the fuel-bed near the ends of the baffle-arms. The blast is thrown downwardly against said arms and then rises uniformly through the fuel mass.

I do not claim generically in the present invention the use of a centrally-rising blast-baffle against which a downward blast impinges, such an apparatus being claimed in copending application Serial No. 250,179. This invention relates to a special form of the type of gas-producer described in said application, and specifically relates to the use of a blast-baffle having arms radiating from a common center, near the extremity of which arms are situated the blast-twyers.

What I claim is—

1. A gas-producer comprising a shell lined with refractory material having in its upper part hoppers for the introduction of fuel, an outlet for the delivery of combustible gas, a water seal, a blast-baffle having radial arms diametrically located within the shell, said radial arms having pitched or inclined sides, and a blast-pipe terminating in twyers near the end of each radial arm for the distribution of the air-blast downwardly against the inclined sides of said baffle-arms.

2. A gas-producer comprising a shell adapted to contain a deep bed of fuel, near its top, a gas-outlet and means for the introduction of fuel, at its bottom a water seal and a therein-centrally-rising blast-baffle having radial arms, said radial arms having pitched or sloping sides, at the end of each of said arms a twyer arranged to deliver an air-blast downwardly upon the sloping sides, and connections with said twyers for the introduction of a cooling medium in conjunction with said air-blast.

Signed at New York city, in the county of New York and State of New York, this 4th day of May, A. D. 1905.

CARLETON ELLIS.

Witnesses:

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A. M. SENIOR.