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W. O. AMSLER.
GAS PRODUCER.

APPLICATION FILED MAY 28, 1904.

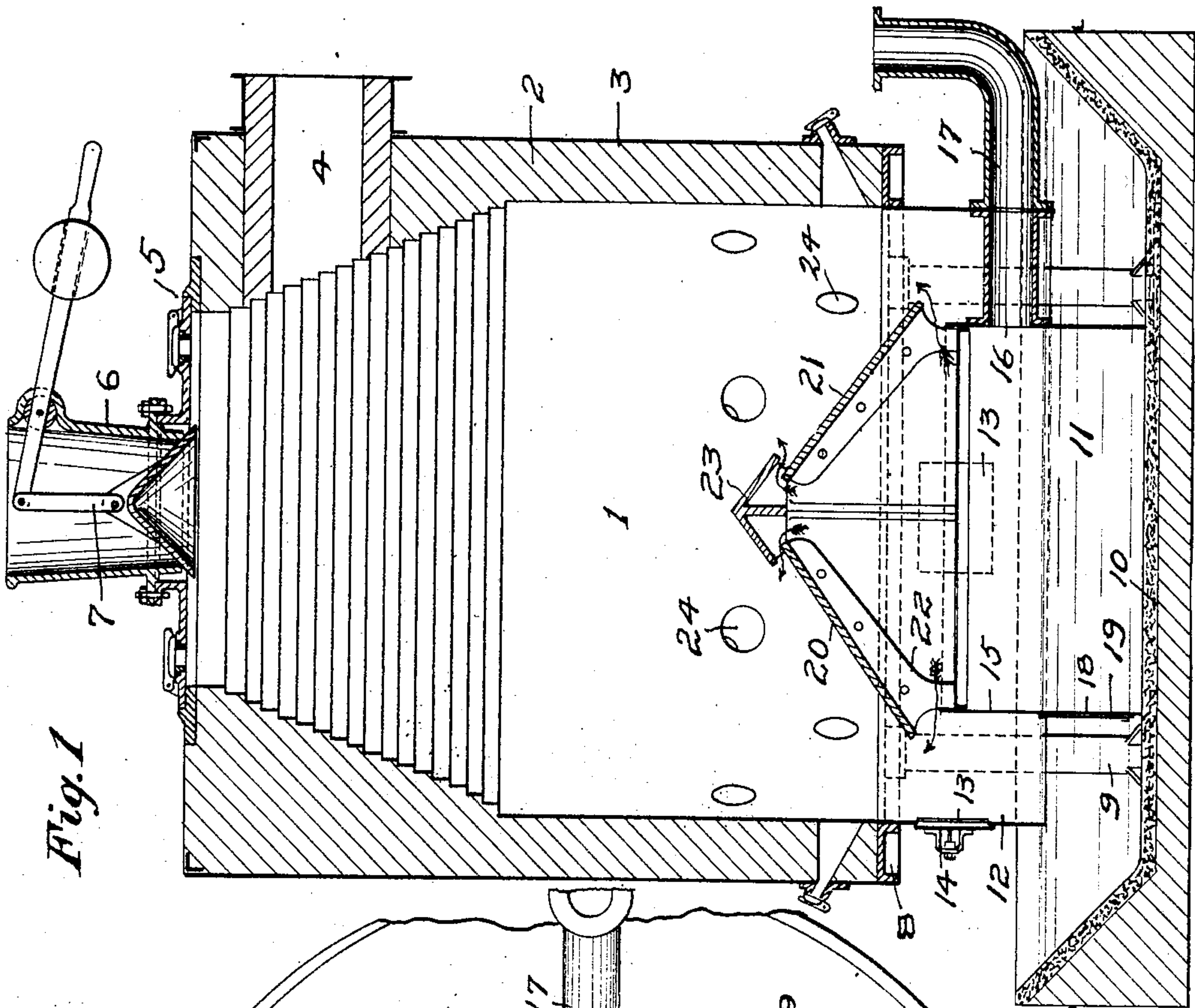


Fig. 1

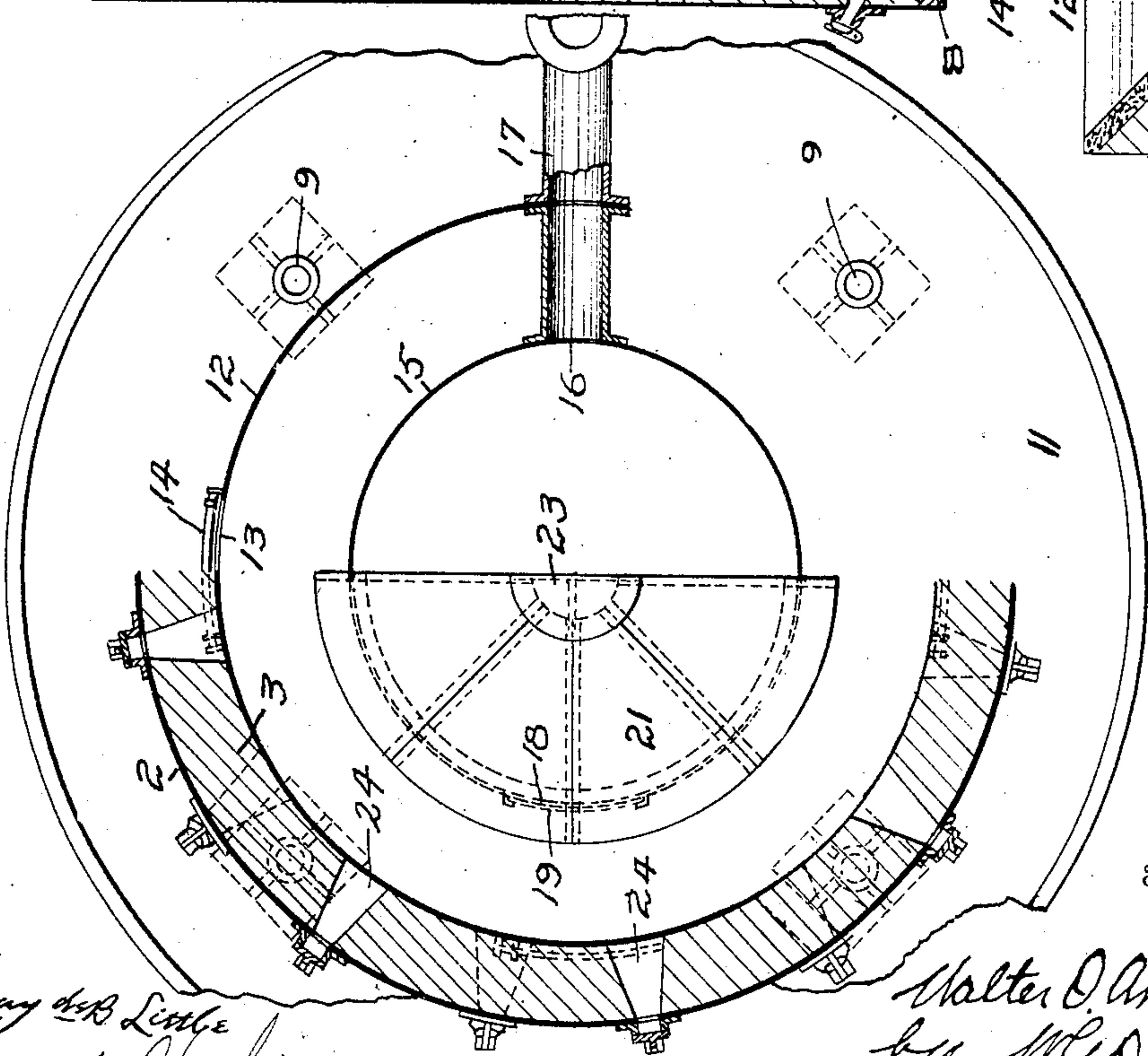


Fig. 2

Witnesses

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GAS-PRODUCER.

SPECIFICATION forming part of Letters Patent No. 785,929, dated March 28, 1905.

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To all whom it may concern:

Be it known that I, WALTER O. AMSLER, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Gas-Producers, of which the following is a specification.

The object of my invention is to provide a new and improved continuous water-sealed gas-producer.

To this end the present invention consists of a new and improved gas-producer particularly designed to combine high efficiency, accessibility, and low cost of installation and repairs, in certain novel features of construction, and in the arrangement and combination of parts, all as fully hereinafter described and claimed.

In the accompanying drawings, which illustrate an application of my invention, Figure 1 is a central vertical sectional view of a producer constructed in accordance with my invention, and Fig. 2 a part plan and a part cross-sectional view.

Referring to the drawings, 1 represents the combustion-chamber of my producer constructed of fire-brick 2 with an outer metallic shell 3. A producer-gas exit 4 extends from the chamber through the wall 2, and 5 represents a metallic cover having a feed-hopper 6 and feeding mechanism 7. The combustion-chamber, as illustrated and as preferred, rests on a circular plate or plates 8, which is or are supported by columns 9, extending upwardly from a suitable foundation 10. Foundation 10 enters into the formation of, preferably, a circular trough or ash-pit 11. This trough is adapted to contain a quantity of water for the purpose of providing a water seal for the producer. The purpose in making the ash-pit or trough circular is to permit the ashes to be removed from any portion of the pit and to render it less troublesome to keep the fuel-bed level and the depth of the fire the same throughout the producer.

Extending downwardly from the combustion-chamber into the pit I employ a casing or apron 12, provided with a series of open-

ings 13, having suitable doors 14, through which large clinkers may be removed. These openings are preferably arranged on the same plane as the upper end of a stand-pipe 15. This stand-pipe 15 extends upwardly from the bottom of the trough and is provided with an opening 16, in communication with a fluid-supply pipe 17, and with openings 18, having doors 19.

In the present invention in place of the usual grate or grates I employ a hood 20, preferably formed of a series of non-perforated plates 21. This hood 20 rests on angle-plates 22, which latter are supported by the stand-pipe 15. The diameter of the lower end of the hood, as illustrated, is greater than the upper end of the pipe 15 and is so arranged in relation to the pipe as to form a fluid-passage between the hood and the upper end of stand-pipe. Above hood 20 I employ a second hood or cap 23, and by supporting it a short distance above hood 20 I provide a second fluid-passage. The air or other fluid from the supply-pipe 17 passes into the stand-pipe and thence to the bed of fuel through the passages formed between the hood and stand-pipe and between the two hoods, as indicated by the arrows. This construction prevents the air or other fluid passing up the sides of the producer mingling with and burning the gas above the fuel, and as the hoods are formed of non-perforated plates no fuel is wasted by falling through the hoods.

Staggered around the side of the producer are a series of poke-holes 24. These poke-holes are located at a height accessible from the floor and are used as sight-holes to keep the fuel-bed even, as well as to dislodge and break up clinkers.

The apron 12, as shown and as preferred, is cylindrical in form and extends downwardly from the combustion-chamber in line with the interior of the wall of the combustion-chamber, thereby providing a straight passage into the water-trough. The employment of a cylindrical apron arranged in the manner shown instead of a conical extension or apron is a great advantage in breaking

up clinkers and forcing them down into the water-trough or permitting them to be removed through the openings 13.

What I claim is—

5 In a gas-producer, the combination, with the combustion-chamber having a series of poke-holes in the clinker-zone, of a circular water-sealed trough below the combustion-chamber, a cylindrical apron extending down-
10 wardly from the combustion-chamber into the trough to a line below the water seal having its inner surface in line with the line of the inner surface of the wall of the combustion-chamber and provided with a series of open-
15 ings located adjacent to the lower end of the wall of the combustion-chamber, said openings of sufficient size to permit the removal of clinkers therethrough, a stand-pipe of large area having closed sides and its lower end
20 resting on the bottom of the trough and ex-

tending upwardly to a line intermediate of the lower end of the wall of the combustion-chamber and the water seal, a fluid-supply pipe passing through the apron and in communication with an opening in the stand-pipe 25 immediately above the water seal, a hood of large area above the stand-pipe formed of a series of non-perforated plates, means for supporting the hood above the upper end of the stand-pipe to form a fluid-passage between 30 the upper end of the stand-pipe and hood, and a non-perforated hood above the first hood supported so as to form a fluid-passage between the hoods, substantially as set forth.

In testimony whereof I affix my signature in 35 presence of two witnesses.

WALTER O. AMSLER.

Witnesses:

MARGARET HUGHES,
W. G. DOOLITTLE.