

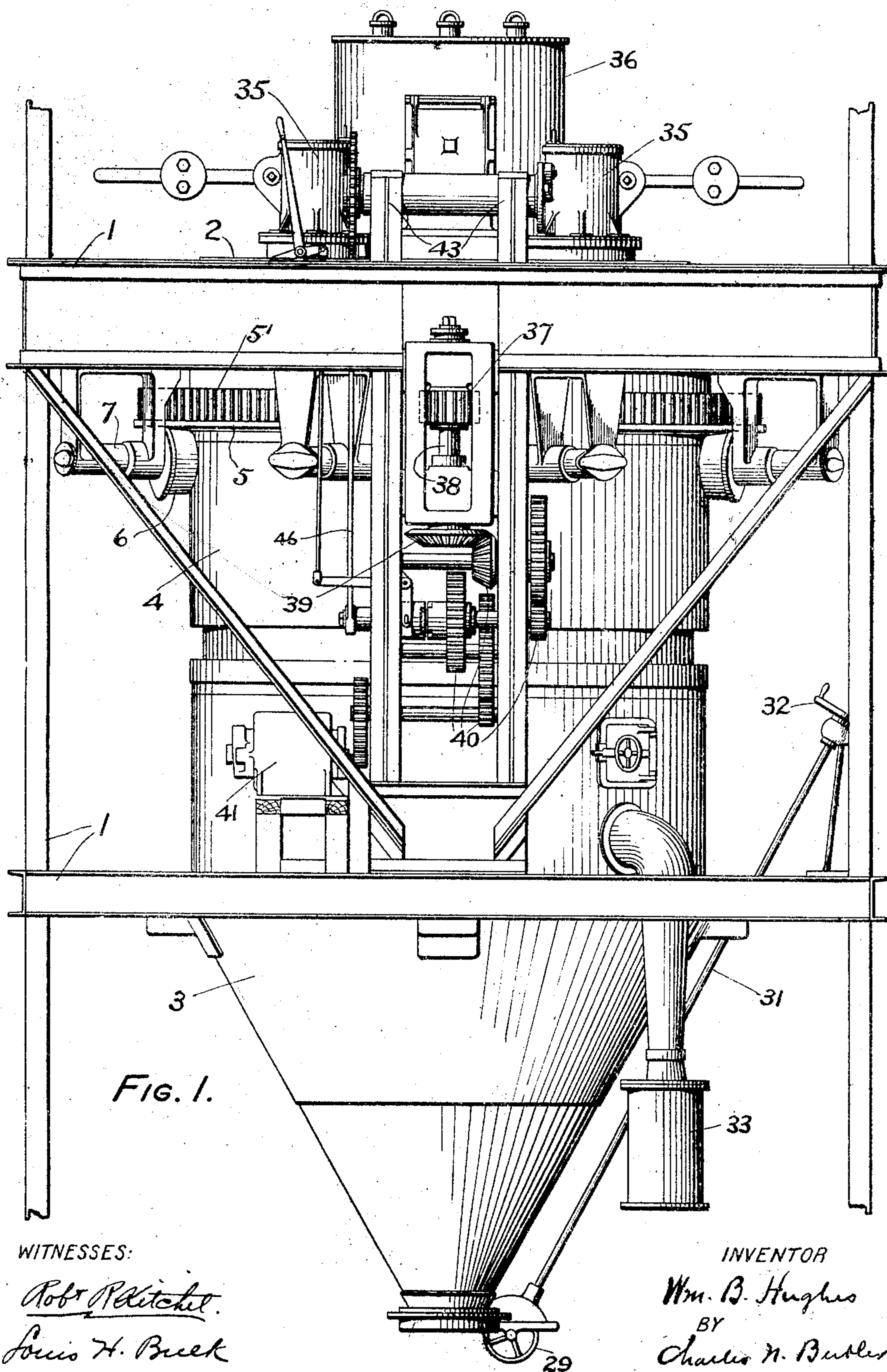
No. 829,651.

PATENTED AUG. 28, 1906.

W. B. HUGHES.
GAS PRODUCER.

APPLICATION FILED OCT. 21, 1905.

2 SHEETS—SHEET 1.



WITNESSES:

Robt. R. Kitchin.
Louis H. Breck

INVENTOR

Wm. B. Hughes
BY
Charles N. Butler
ATTORNEY.

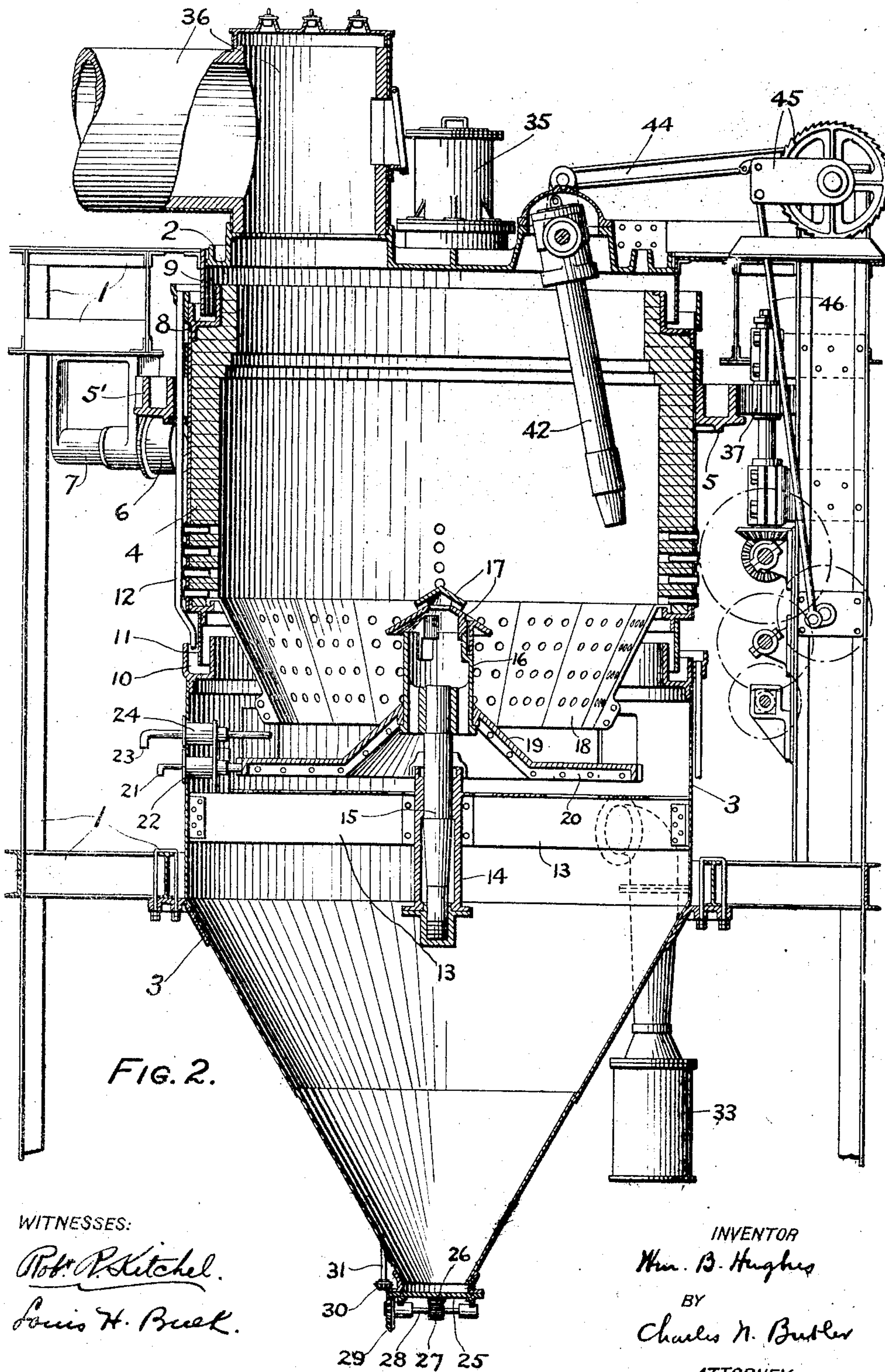
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UNITED STATES PATENT OFFICE.

WILLIAM B. HUGHES, OF PHILADELPHIA, PENNSYLVANIA

GAS-PRODUCER.

No. 829,651.

Specification of Letters Patent.

Patented Aug. 28, 1906

Application filed October 21, 1905. Serial No. 283,750.

To all whom it may concern:

Be it known that I, WILLIAM B. HUGHES, a citizen of the United States, residing at Wis-sahickon, in the county of Philadelphia and State of Pennsylvania, have invented certain Improvements in Gas-Producers, of which the following is a specification.

This invention relates to gas-producers such as are used in connection with steel and glass works; and it is designed chiefly to provide improved means for withdrawing the ashes from the body of fuel to effect a better distribution of air for combustion and to secure a perfected mechanical construction and operation.

The characteristic features of the improvements will more fully appear from the following description and the accompanying drawings in illustration thereof, of which—

Figure 1 represents an exterior elevation of a gas-producer embodying the invention, and Fig. 2 represents a vertical sectional view thereof.

As shown in the drawings, the framework 1 carries the stationary producer-top 2, the stationary ash-receiver 3, and the revolving producer-body 4. The body is carried by a track 5, extending around it and secured near the top thereof, and by rollers 6, journaled in the hangers 7, fixed to the frame on which the track runs. On the body 4 is a channel 8, into which depends an apron 9 from the top 2, and on the receiver 3 is a channel 10, into which depends the apron 11 from the body 4, water supplied to the upper channel for sealing the body and top overflowing through the pipe 12 into the channel 10 to seal the body and receiver.

The receiver 3 has fixed therein supports 13 for the step-bearing 14, which carries the vertical shaft 15. A blast-pipe 16, with deflectors 17 thereon, is carried by the top of this shaft and extends upwardly into the perforated hopper-bottom 18 of the body 4. The blast-pipe has depending therefrom the conical portion 19, from which projects a horizontal portion 20, forming a table beneath the hopper, the blast-pipe and table revolving with the shaft 15. A bolt 21, movable longitudinally in the socket 22, fixed to the receiver 3, is adapted for engaging and disengaging the table whereby it is held stationary or permitted to revolve, and a bolt 23, movable longitudinally in the socket 24, carried by the receiver, can be adjusted so as to extend over the edge of the table and be-

neath the hopper to engage ashes discharged from the body.

The bottom of the receiver is closed by a valve 25, which is operated by a rack 26 thereon, engaging a pinion 27 on a journaled shaft 28, the shaft having a beveled gear 29 thereon operated by a bevel-gear 30 on a revolving rod 31, turned by a handle 32.

A blower 33 forces air into the top of the ash-receiver 3, through the blast-pipe 16 and through the open bottom and perforations of the hopper 18 for the combustion of the fuel charged through the inlets 35 of the top and contained in the body, the gas evolved being discharged through the top passage 36.

The body is revolved through the engagement of the rack 5' thereon by a gear-wheel 37, which is fixed on a shaft 38, having a beveled gear 39 thereon, the latter being driven by a gear-train 40, operated by a motor 41, and simultaneously therewith the poker 42, oscillating radially in the revolving body on bearings 43 of the top, is actuated through the rod 44, connected in eccentric relation to the ratchet mechanism 45 and operated through the rod 46 from the gear-train, the mechanism for revolving the body and oscillating the poker being of a construction known heretofore.

In the operation of the producer the revolving body and the oscillating poker effect the desired agitation of the fuel in process of combustion to prevent the formation of clinkers and to permit the proper combination therewith of air introduced through the blast-pipe and base, while the ashes pass through the hopper-bottom onto the table. As the body revolves, the base will be revolved by frictional engagement through the ashes when there is a sufficient pressure or load of ashes thereon, but otherwise may lag, so that the ashes will be ground down by the different rate of revolution between the hopper and the base. When it is necessary to do so in order to break the body of ashes, the table may be engaged by the bar 21 for holding it, or the bar 23 may be thrust in over the table, or both may be effected simultaneously. The ashes falling over the edges of the table into the ash-receiver are removed therefrom through the valve in the receiver-body.

Having described my invention, I claim—

1. A gas-producer having a revoluble body and a revoluble base, said body being revoluble independently of said base.
2. A gas-producer having a revoluble body

and a revoluble base, said base and body being capable of revolving at different rates.

3. A gas-producer having a revoluble body, a revoluble base, and means for holding said base during the revolution of said body.

4. A gas-producer having a revoluble body and a revoluble base which acts to support the contents of said body, said base being revolved by the pressure of the contents of said body thereon.

5. A gas-producer having a body, mechanism whereby said body is supported and revolved, a table acting to support the contents of said body, and means separate from said mechanism whereby said table is supported and revolved.

6. A gas-producer having a frame, a body, a track and rollers connecting said body and frame whereby said body is revoluble, a base beneath said body, and mechanism separate from said track and rollers whereby said base is supported and revolved.

7. A gas-producer having a frame, rollers supported by said frame, a body, a track fixed to said body and revolving on said rollers, a revoluble base beneath said body, and a spindle for revolvably supporting said base.

8. A gas-producer having a revoluble body and a revoluble base comprising a blast-pipe and a table, said body being capable of revolving independently of said base.

9. A gas-producer comprising a revoluble base, a body revoluble independently of said base, a bar and a stationary support, said bar being movable in said support between said base and body.

10. A gas-producer having a stationary top, a revolving body with an ash-hopper, sealing mechanism between said top and body, a revolving base comprising a blast-pipe and a table, an ash-receiver, and sealing mechanism between said body and receiver.

11. A gas-producer having a body, mechanism for revolving said body, a revoluble base, and a bar for engaging and holding said base during the revolution of said body.

12. A gas-producer comprising a revoluble body having an ash-hopper, a stationary ash-receiver having a valved outlet and a revoluble base between said hopper and outlet.

13. A gas producer having a revoluble body, a revoluble base and a stationary ash-receiver, into which the said base extends leaving an annular space between the latter and the receiver for circumferentially discharging the ashes.

14. In combination with a gas-producer having a revoluble body, a revoluble base and a stationary ash-receiver, into which the said base extends, leaving an annular space between the latter and the receiver for circumferentially discharging the ashes, and adjustable scraper arranged in the annular space of the ash-receiver for regulating the circumferential discharge.

In testimony whereof I have hereunto set my hand, this 16th day of October, 1905, in the presence of the subscribing witnesses.

WM. B. HUGHES.

Witnesses:

ROBERT JAMES EARLEY,
UTLEY E. CRANE, Jr.