

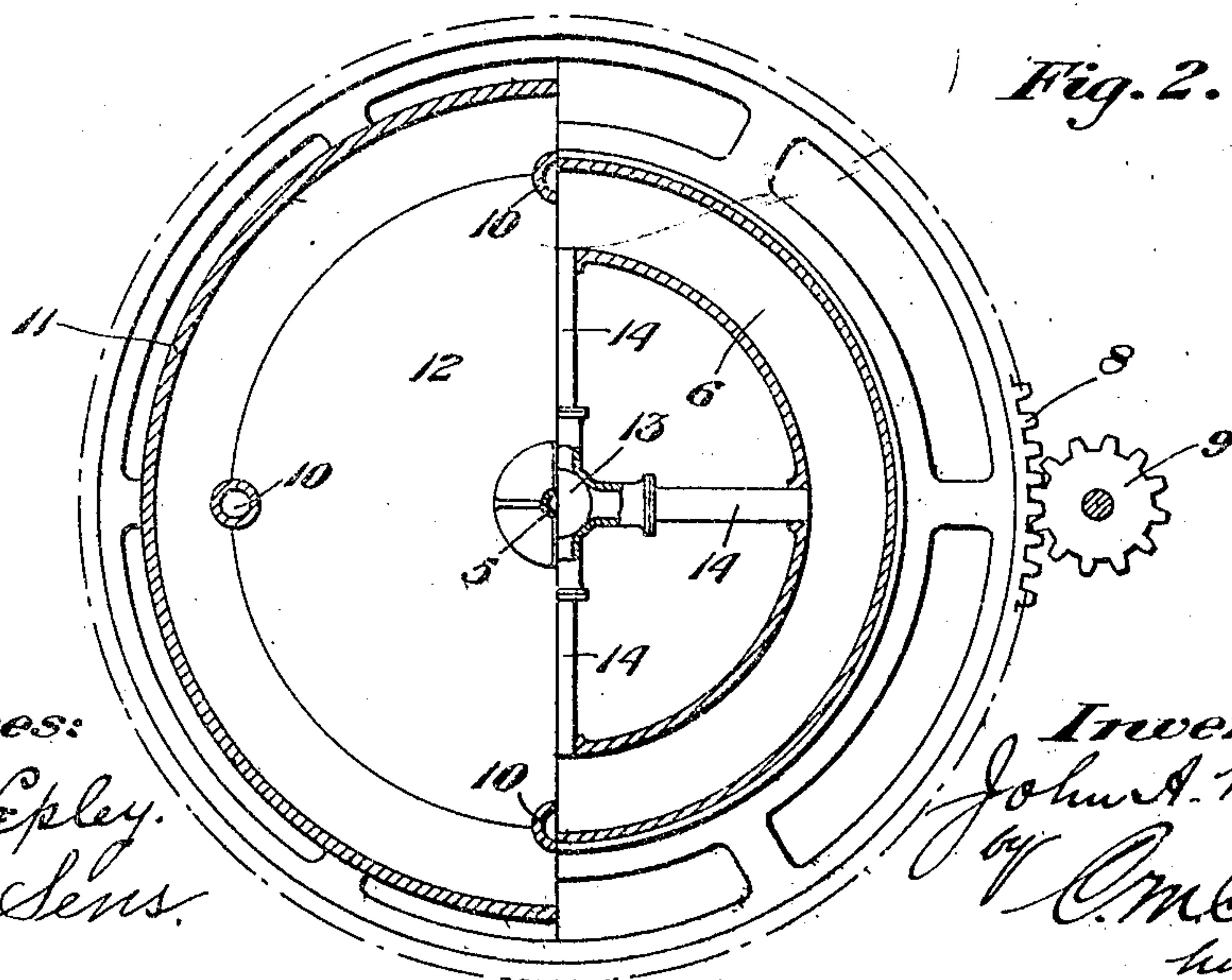
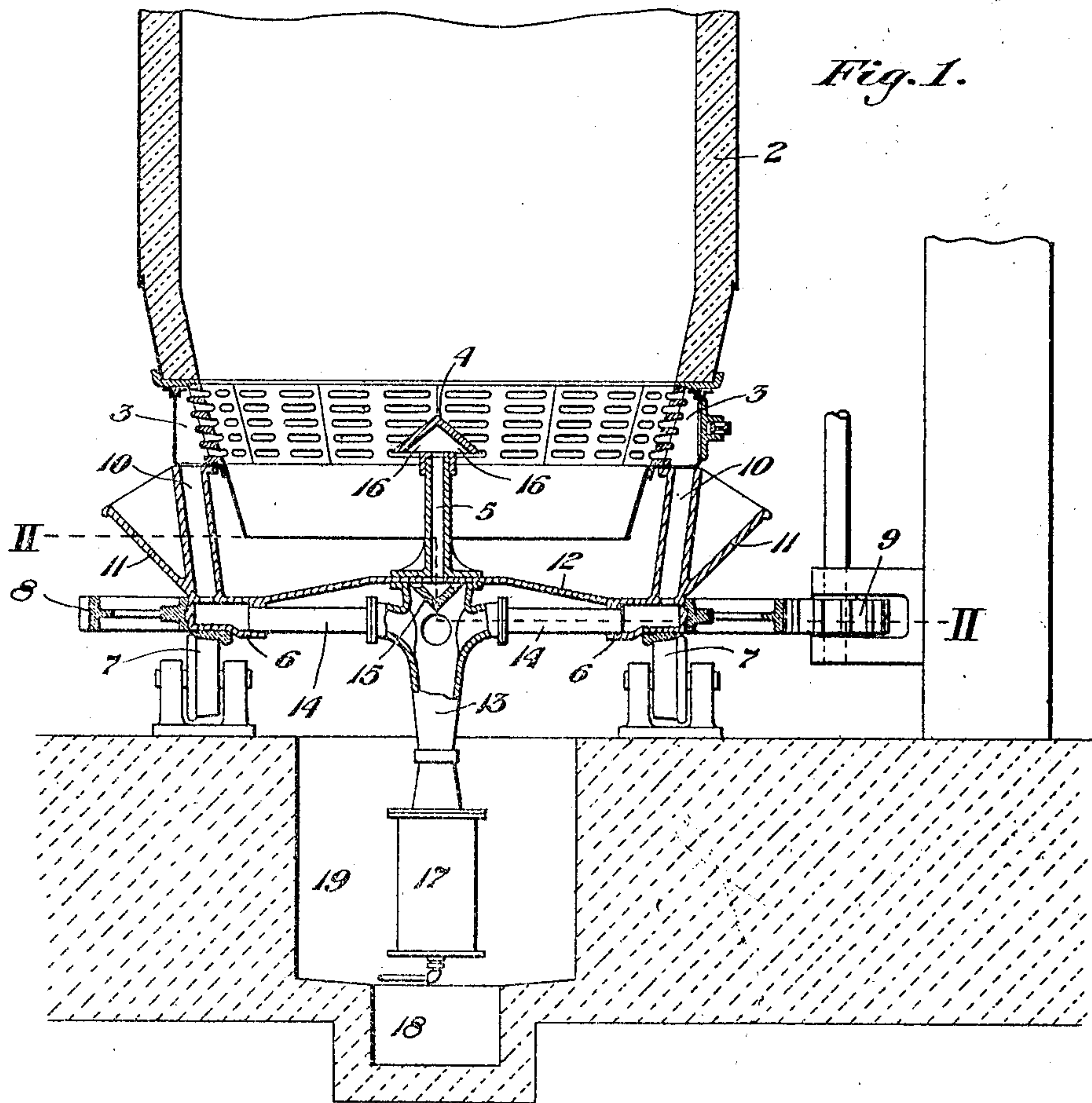
J. A. WALDBURGER.

GAS PRODUCER.

APPLICATION FILED MAY 7, 1908.

913,591.

Patented Feb. 23, 1909.



Witnesses:  
Chas. S. Spley.  
Henry Senn.

Inventor:  
John A. Waldburg  
by C. M. Clark  
his Attorney



# UNITED STATES PATENT OFFICE.

JOHN A. WALDBURGER, OF McKEESPORT, PENNSYLVANIA, ASSIGNOR TO FORTER-MILLER ENGINEERING COMPANY, OF McKEESPORT, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

## GAS-PRODUCER.

No. 913,561.

Specification of Letters Patent.

Patented Feb. 23, 1909.

Application filed May 7, 1908. Serial No. 431,297.

*To all whom it may concern:*

Be it known that I, JOHN A. WALDBURGER, a citizen of the United States, residing at McKeesport, 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, reference being had therein to the accompanying drawing.

10 My invention refers to improvements in gas producers, more particularly the class of water-seal gas producers, and relates to a construction wherein the producer and its water-seal compartment are rotatable for the  
15 purpose of operation with any relatively stationary stirring or poking device for agitating the fuel, (not *per se* forming any part of the present invention,) or for any other purpose.

20 The application refers particularly to the construction of the base portion of the producer and to the grate construction thereof and means for furnishing a constant supply of air or steam, or both, to an annular wind  
25 box and also to a central supply device.

In the drawings accompanying the invention:—Figure 1 is a vertical sectional view of the lower portion of a gas producer constructed in accordance with my invention.  
30 Fig. 2 is a horizontal sectional view on the line II. II. of Fig. 1.

The producer 2 as shown in the drawings is usually cylindrical in cross section, provided with the customary charging hopper having  
35 suitable feeding mechanism and a gas outlet and if desired, any convenient stationary mechanism for stirring the contents during rotation of the producer, (not shown) at its upper portion.

40 3 is the annular wind box surrounding the base portion of the producer immediately below its walls and provided with numerous inwardly opening ports for circulation of the air and steam, of well known construction.

45 4 is a centrally arranged cone mounted on a hollow post 5 in communication with the rotatable air supply mechanism and adapted to deliver volumes of air and steam laterally toward the outer portion to the charge.

50 The entire producer is supported upon a rotatable base 6 in the form of a hollow ring, which in turn rests upon the concentric series of supporting rollers or casters 7, and is provided with a surrounding annular gear  
55 wheel 8 in mesh with the driving pinion 9

operated by any suitable driving means, as will be readily understood.

The hollow base 6 is connected with the wind box 3 by a series of hollow post conduits 10, preferably cast integral with the  
60 water-seal pan 11 having a continuous bottom portion 12, or incorporated therewith in any suitable manner.

13 is a central hollow main supply conduit connected with the hollow ring 6 by a  
65 series of hollow pipes or conduits 14 and also connected with the hollow column 5, as clearly shown in Fig. 1.

15 represents a baffling device, preferably of inverted cone shape having circulation  
70 ports whereby the volume of air and steam will pass through the hollow column 5 and from thence through the delivery apertures 16 of cone 4 radially outward to the mass of fuel in combustion at all sides. The object  
75 of the baffling device is to minimize the force of the current without obstructing the desired volume to the delivery cone 4.

17 is a blower rigidly connected with the hollow column 13 into the interior of which  
80 enters the terminal of a steam supply pipe 18 through a suitable stuffing box, a copious volume of air being furnished to the blower and from thence to the column 13 and finally  
85 to wind box 3, from the surrounding central chamber 19.

The operation of the device will be obvious from the foregoing description. The volume of air and steam will at all times be delivered  
90 to the wind box 3 and from thence inwardly to the fuel in combustion, equally throughout its entire circumference to the numerous apertures, as will also the volume of air and steam from the central supply cone 4. A  
95 further function of the cone is the usual one, to wit, to deflect the fuel outwardly around the central portion and preventing the formation of a solid center.

In operation the entire producer is rotated by gearing 8, 9, at the desired speed, the gas  
100 producing operation being carried out in the same manner generally as in producers of this class.

The advantages of a mechanically rotated and mechanically poked producer are that uniformity of operation is insured, obviating the  
105 irregularities of manual operation, and giving greatly improved results as to regularity of consumption of the fuel and resulting gas as well as an increased volume, and complete  
110



combustion of the fuel. By this construction the water-seal compartment is made a member of the producer itself; the entire construction is simple and economically manufactured; capable of continuous efficient use, not liable to get out of order, and capable of increased efficiency over the ordinary stationary producer.

I am aware that it is not new to construct a mechanically poked rotatable producer and do not claim that such is new, *per se*, the present improvement relating particularly to the embodiment with the producer of the above described means for furnishing and maintaining a supply of air and steam.

The invention may be changed or varied in different features or details or arrangement of parts by the skilled mechanic, but all such changes are to be considered as within the scope of the following claims:

What I claim is:

1. The combination with a rotatable producer and means for supporting and rotating it, of a surrounding attached wind box and means for supplying fluid thereto.
2. The combination with a rotatable gas producer and means for supporting and rotating it, of a surrounding attached annular wind box opening inwardly to the base of the producer, and means for supplying fluid thereto.
3. The combination with a rotatable gas producer and means for supporting and rotating it, of a surrounding attached annular wind box opening inwardly to the base of the producer, means for supplying fluid thereto, and a central fluid supply device.
4. The combination with a rotatable gas producer, of a surrounding attached wind box opening to the interior of the producer, a rotatable hollow base supporting the producer and communicating with air supply means, means for rotating the base and producer and means connecting the base with the wind box for fluid circulation, substantially as set forth.
5. The combination with a rotatable gas producer, of a surrounding attached wind box opening to the interior of the producer, a rotatable hollow base communicating with air supply means, means supporting the producer and connecting the base with the wind box, means for rotating the base and producer, and a central attached rotatable supply device connected with said supply means, substantially as set forth.
6. A rotatable gas producer having a surrounding attached wind box opening into the producer interior, means for supporting and rotating said parts, and means rotatably incorporated therewith for furnishing a supply of air to the wind box.
7. A rotatable gas producer having a hollow supporting base, a wind box connected therewith and to the producer, means

for rotating the base, and means for supplying air to the base, substantially as set forth.

8. A rotatable gas producer having a connected hollow supporting base, an attached wind box communicating with the base a central air-supply cone connected with the base, means for supplying air to the base and means for rotating it, substantially as set forth.

9. A rotatable gas producer having a connected hollow supporting base, an attached wind box communicating with the base, means for supplying air to the base and means for rotating it, said base having incorporated therewith a water-seal pan, substantially as set forth.

10. In a gas producer, the combination with a hollow rotatable base, air supply means communicating therewith, means for rotating the base, and a water-seal pan extending upwardly from the base, of a superimposed producer structure provided with a surrounding inwardly distributing wind box, and means connecting the wind box with the base, substantially as set forth.

11. In a producer, the combination with an annular hollow rotatable base, a series of supporting wheels, a surrounding gear wheel and means for actuating it, a superimposed producer provided with a surrounding inwardly distributing wind box, and a series of hollow piers extending from the hollow base to the wind box, substantially as set forth.

12. In a producer, the combination with an annular hollow rotatable base, a series of supporting wheels, a surrounding gear wheel and means for actuating it, a superimposed producer provided with a surrounding inwardly distributing wind box, a series of hollow piers extending from the hollow base to the wind box, and a centrally arranged correspondingly rotatable hollow air-supply device communicating with the air supply means and provided with a terminal cone, substantially as set forth.

13. The combination with a rotatable gas producer having a wind box, of a hollow correspondingly rotatable base incorporated therewith connected with the wind box and a source of supply and means for rotating the base.

14. The combination with a source of fluid supply, of a rotatable gas producer having a wind box and provided with a central hollow member communicating with said source of supply, and radially arranged hollow arms connected with said source of supply and with the hollow base, and means for rotating the base, substantially as set forth.

15. The combination with a source of fluid supply, of a rotatable gas producer having a hollow base and a wind box and provided with a central hollow member



communicating with said source of supply, radially arranged hollow arms connected with the hollow base, and a central upwardly extending hollow air distributing column provided with a terminal cone and means for rotating the base, substantially as set forth.

16. The combination with a source of fluid supply, of a rotatable gas producer having a hollow base and a wind box and provided with a central hollow member communicating with said source of supply,

radially arranged hollow arms connected with the hollow base, a central upwardly extending hollow air-distributing column provided with a terminal cone and an inverted coniform baffling device and means for rotating the base, substantially as set forth.

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

JOHN A. WALDBURGER.

Witnesses:

C. M. CLARKE,  
CHAS. S. LÉPLEY.