

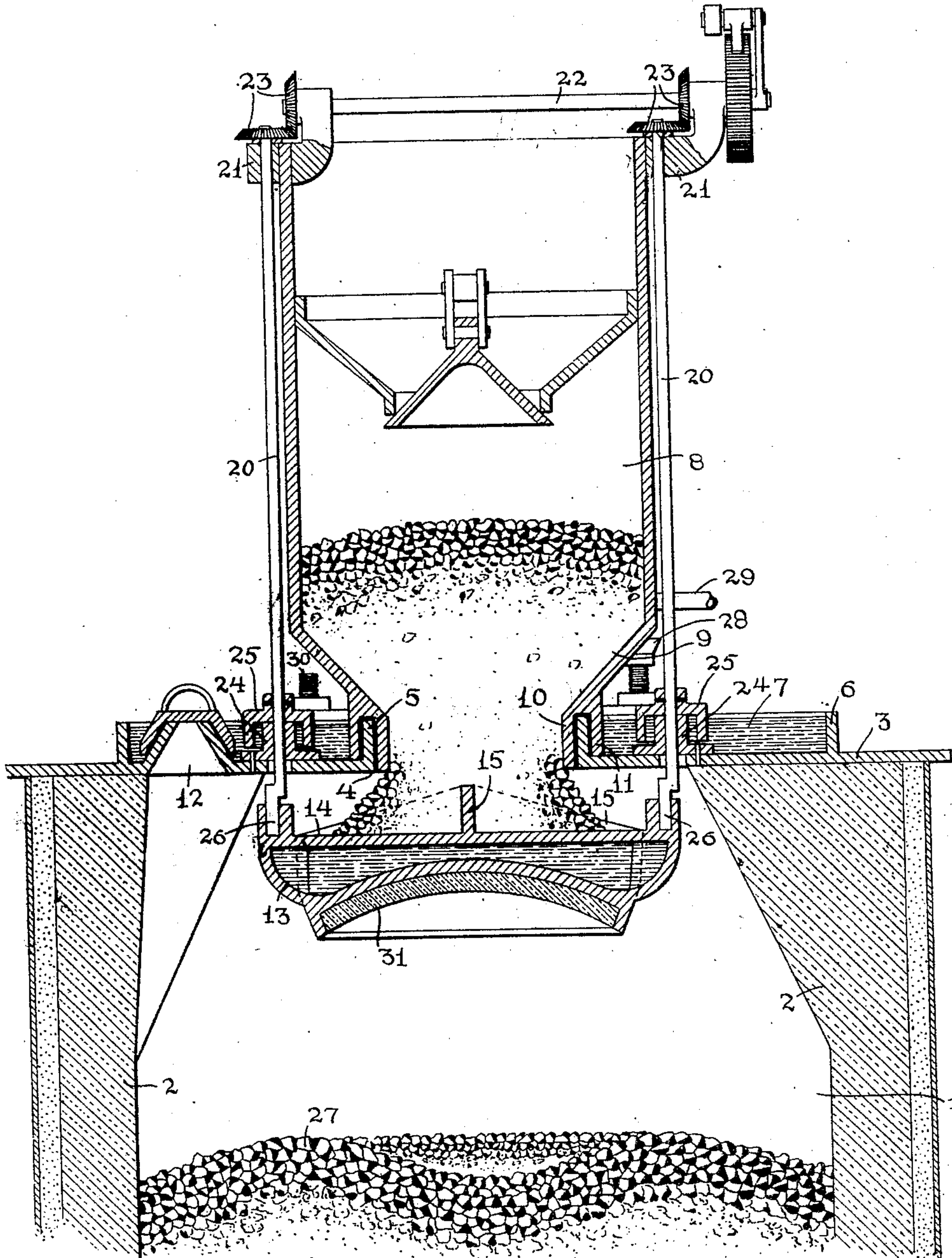
No. 886,491.

PATENTED MAY 5, 1908.

J. R. GEORGE.  
GAS PRODUCER.

APPLICATION FILED SEPT. 30, 1904.

2 SHEETS—SHEET 1.



Witnesses  
Roy D. Tolman.  
Penelope Kumberback.

Fig. 1.

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2 SHEETS—SHEET 2.

Fig. 2.

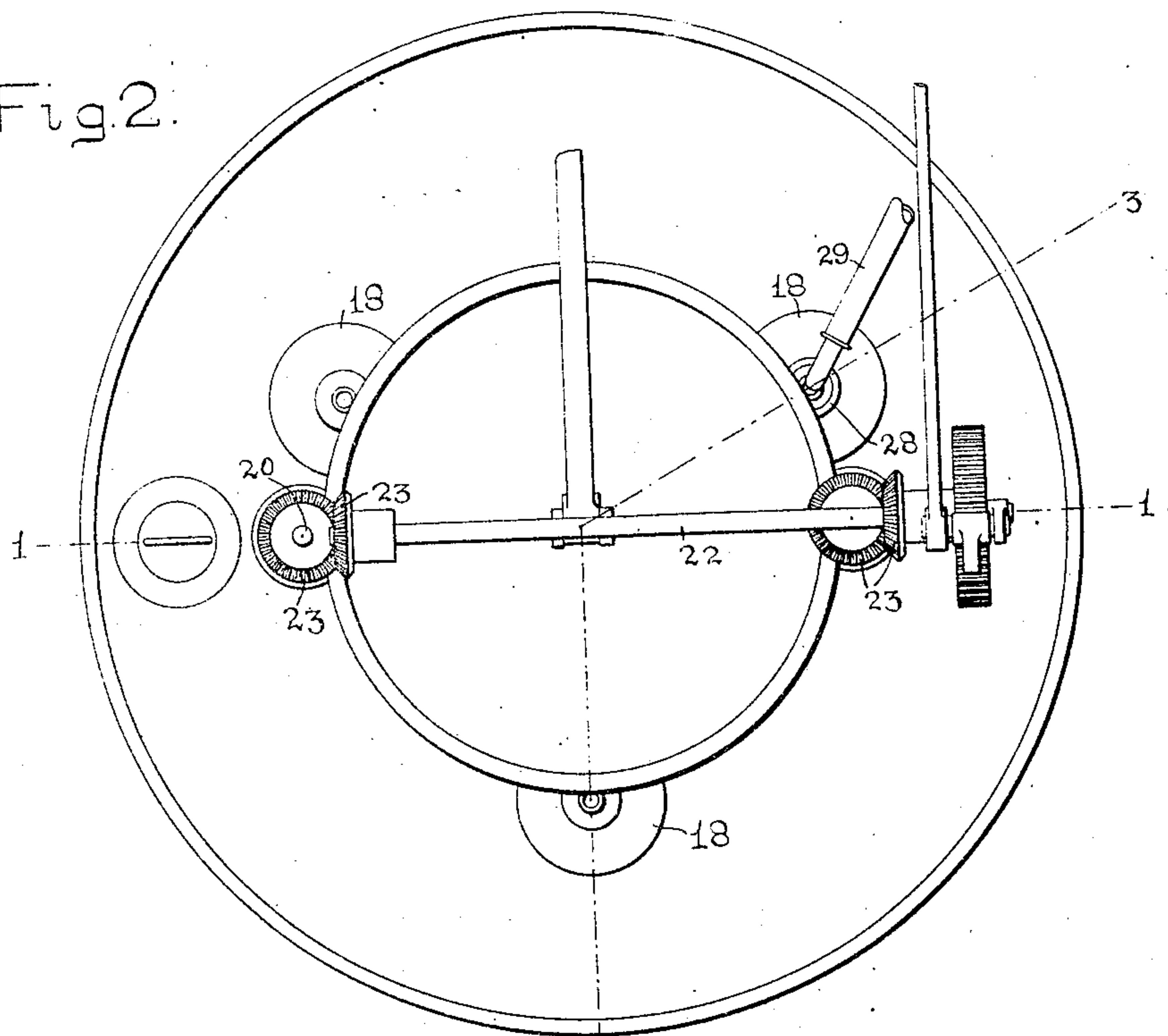
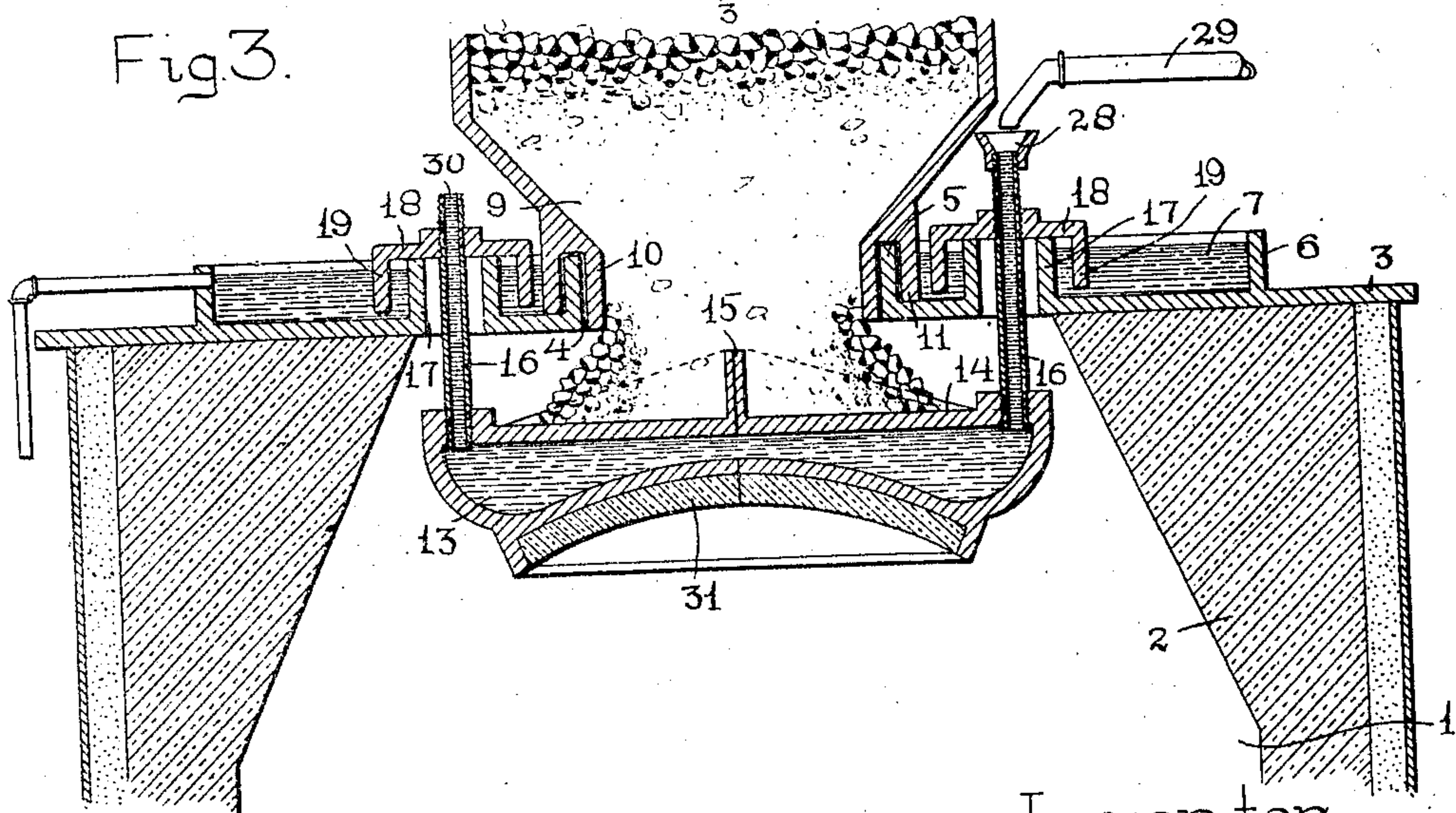


Fig. 3.



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# UNITED STATES PATENT OFFICE.

JEROME R. GEORGE, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO MORGAN CONSTRUCTION COMPANY, OF WORCESTER, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

## GAS-PRODUCER.

No. 886,491.

Specification of Letters Patent.

Patented May 5, 1908.

Application filed September 30, 1904. Serial No. 226,805.

*To all whom it may concern:*

Be it known that I, JEROME R. GEORGE, a citizen of the United States; residing at Worcester, in the county of Worcester and Commonwealth of Massachusetts, have invented a new and useful Improvement in a Gas-Producer, of which the following is a specification, accompanied by drawings, forming a part of the same, in which—

Figure 1 represents a central vertical sectional view through the upper part of the gas producer and the feeding mechanism, the section being taken on line 1—1, Fig. 2. Fig. 2 is a plan view, and Fig. 3 is a vertical sectional view taken on line 3—3, Fig. 2.

Similar reference letters and figures refer to similar parts in the different views.

My present invention relates to the mechanism for feeding fuel to the heating chamber of a gas producer, and it has for its objects to provide a feeding mechanism by which the supply of fuel is rendered more uniform and its even distribution over the mass of fuel in the heating chamber is secured, and also for the purpose of providing a feeding mechanism in which the coal distributing element may be inserted within the heating chamber and in close proximity to the mass of fuel in the chamber, and my invention consists in the construction and arrangement of parts as hereinafter described and pointed out in the annexed claims.

Referring to the accompanying drawings 1 denotes the heating chamber of a gas producer and 2 the side walls constructed of masonry. The side walls 2 are open at the top and the opening is covered by a top plate or cover 3 having a central opening 4 surrounded by an annular flange 5. A similar annular flange 6 is placed near the edge of the cover and concentric with the flange 5 inclosing a water space to contain water 7 for the purpose of water sealing the openings into the heating chamber. Mounted upon the top plate 3 is a coal reservoir 8 having a hopper shaped bottom 9 terminating at the lower end in two concentric annular flanges 10 and 11 which inclose the annular flange 5 of the top plate, the flange 10 forming a tubular spout through which the coal is delivered from the reservoir to the heating chamber, and the flange 11 is inserted in the water 7 to water seal the central opening of the top plate. Peek holes, as desired, are

provided through the top plate through which the condition of the fire may be examined or a poker inserted, one of such peek holes being shown at 12. Suspended a short distance below the central opening 4 is a cast metal shell 13 having a plane upper surface 14, preferably provided with triangular ribs 15 projecting upward toward the delivery opening of the coal reservoir. The shell 13 is suspended upon pipes 16 which extend upward through hollow bosses or hubs 17 on the top plate and carry upon their screw threaded upper ends nuts 18 having depending flanges 19 which extend downward into the water 7 in order to water seal the openings through the hubs 17. The openings through the hubs 17 are enlarged to permit a lateral movement of the pipes 16 when an orbital motion is applied to the shell 13, which is accomplished by means of a pair of rotating crank shafts 20, 20, journaled at their upper ends in brackets 21 and driven by a countershaft 22 journaled above the reservoir 8 and operatively connected with the crank shafts 20 by the miter gears 23. The lower ends of the crank shafts are journaled in hubs 24 on the top plate 3 which are water sealed by the inverted cup shaped collar 25. The lower ends of the crank shafts 20 are provided with cranks 26 which engage the shell 13, whereby a horizontal orbital movement is given to the shell by the rotation of the crank shafts.

The diameter of the plane coal supporting surface 14 is greater than the diameter of the delivery opening in the bottom of the coal reservoir, and the distance between the coal supporting surface 14 and the delivery opening of the coal reservoir is such that the coal will be supported on the surface 14 within the angle of repose when the shell 13 is at rest, but when the crank shafts 20 are rotated and a slight orbital movement in a horizontal plane given to the shell 13, the coal will gradually be worked over the edge of the shell and fall upon the mass of coal 27 in the heating chamber. One of the pipes 16 is provided with a funnel 28 to receive a water supply through a pipe 29 and another of the pipes 16 is shortened in length to form an overflow at 30 into the water space between the annular flanges 5 and 6. By this means a current of water is maintained from the supply pipe 29 through one of the suspension pipes to the interior of the shell 13 and from



the shell 13 through the shorter suspension pipe it maintains the water supply 7. The under side of the shell 13 is preferably covered with some refractory material 31, to protect the shell from the heat of the producer.

The coal supporting surface 14 is circular in plan view and as the cranks 26 are rotated the coal supporting surface is given a circular orbital movement in a horizontal plane, so that every point in the surface 14 revolves about an axis eccentric with the axis of the surface 14 itself, thereby causing the coal to be shaken off the edge of the coal supporting surface 14. Since the circular orbit of the surface 14 is concentric with the heating chamber, the coal from the circular surface 14 will fall into the heating chamber in an annular path concentric therewith.

What I claim as my invention and desire to secure by Letters Patent is:—

1. In a gas producer, the combination with a heating chamber having an opening in its top for the admission of coal, of a coal supporting surface below said opening, and means for imparting a movement to said coal supporting surface arranged to pass each point on said surface simultaneously through a horizontal circular orbit of an equal radius, whereby coal is distributed through said chamber over the edge of said surface.

2. In a gas producer, the combination with a heating chamber and a coal reservoir above said chamber, of a coal supporting surface below said coal reservoir, and means for imparting a movement to said coal supporting surface arranged to pass each point on said surface simultaneously through a horizontal circular orbit of an equal radius, whereby coal is distributed through said chamber over the edge of said surface.

3. In a gas producer, the combination with a heating chamber having an opening in its top for the admission of coal, of a coal supporting surface below said opening, a vertical shaft provided with a crank in engagement

with said surface, means for rotating said crank whereby each point on said surface passes through an orbit of a radius equal to the radius of the crank, and coal is thereby distributed to said chamber over the edge of said surface.

4. In a gas producer, the combination with a heating chamber having a top plate or cover provided with an opening for the admission of coal, of a coal supporting surface below said opening, means for imparting a movement to said surface arranged to pass each point on said surface simultaneously through a horizontal circular orbit of an equal radius, and supports for said surface capable of movement in a similar orbit in said top plate.

5. In a gas producer, the combination with a heating chamber having an opening in its top for the admission of coal, of a shell provided with a fuel supporting surface held below said opening and in said chamber, means for imparting an orbital movement to said shell, and means for conducting a current of water through said shell.

6. In a gas producer, the combination with a heating chamber, of a top plate or cover provided with an opening for the admission of coal to said chamber, a fuel supporting surface below said opening, a vertical shaft, means for rotating said shaft, a crank carried on the end of said shaft, and engaging said surface, openings in said cover for said shaft, a water space surrounding said openings, and means for water sealing said openings.

In testimony whereof I have hereunto affixed my hand in presence of two subscribing witnesses, at Worcester, in the county of Worcester and Commonwealth of Massachusetts, this 26th day of September 1904.

JEROME R. GEORGE.

Witnesses:

PENELOPE COMBERBACH,  
RUFUS B. FOWLER.