

H. GADERMAYR.
GAS GENERATOR.
APPLICATION FILED AUG. 28, 1911.

1,061,466.

Patented May 13, 1913.

2 SHEETS—SHEET 1.

Fig. 1

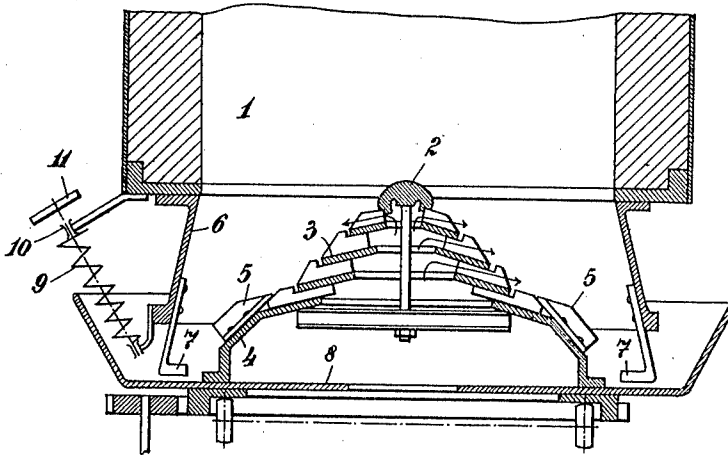
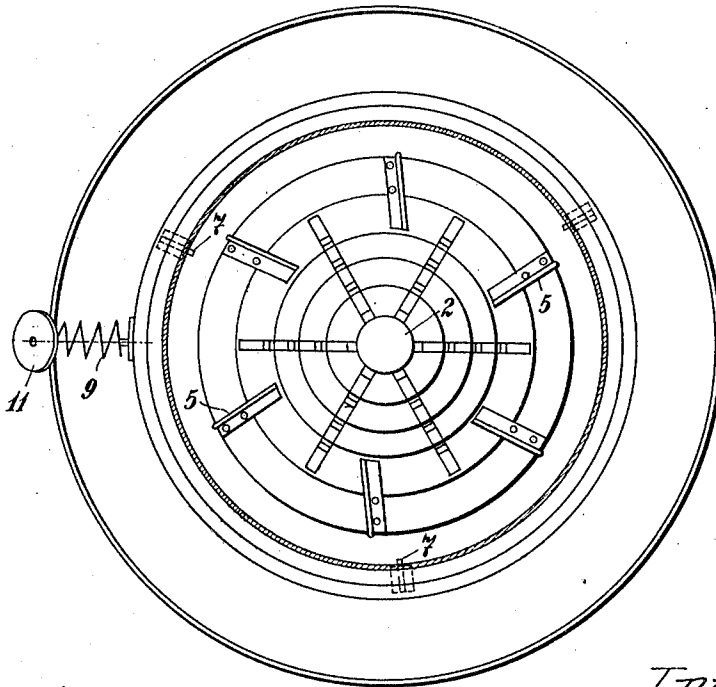


Fig. 2



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Centronmetall
H. Alden

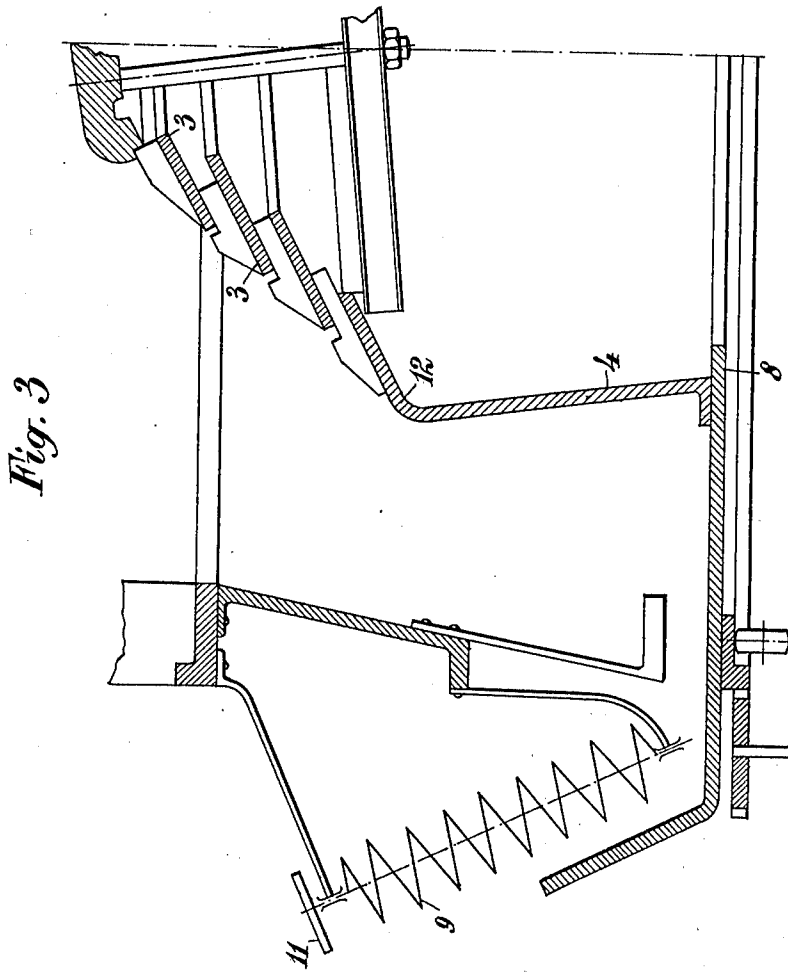
Inventor.
Hermann Gadermayr

By *Alfred Middleton Donaldson* *Att'y.*

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Centon MacLaff
H. Alden

Inventor.
Herrman Gadermayr.

By *Officer Middleton Donaldson* *Officer*
Atty's.

UNITED STATES PATENT OFFICE.

HERMANN GADERMAYR, OF BISCHOFSWERDA, GERMANY.

GAS-GENERATOR.

1,061,466.

Specification of Letters Patent.

Patented May 13, 1913.

Application filed August 28, 1911. Serial No. 646,489.

To all whom it may concern:

Be it known that I, HERMANN GADERMAYR, a subject of the King of Saxony, residing at Bischofswerda, Saxony, Germany, have invented certain new and useful Improvements in Gas-Generators, of which the following is a specification.

This invention relates to a gas generator, the chief novelties consisting in the particular construction of the grate, the formation of the ash pit and the mechanism for removing the ashes and cinders.

By constructing a generator according to the invention the drawbacks inherent in the present construction are obviated.

With the method of construction at present adopted in which the grate is located at the lower part of the gas generator shaft, it is so constructed that the air from beneath the grate is directed horizontally so that it strikes against the lower vertical wall of the shaft. In this case when the apparatus for removing the ash and cinder is operated the ashes are pressed against the outlet opening for air and become heaped up, thus reducing the free space at the lower part of the gas generator, the gas production is thus rendered much less satisfactory as the distribution of air is irregular. A further drawback with the present construction is that the ashes and cinders, especially at the grate level, cling to the lower part of the wall of the gas generator shaft which renders it difficult or impossible to remove them by the use of the ordinary scrapers or shovels. These drawbacks are obviated by the present invention by deflecting the air entering from beneath the grate from the horizontal direction and by forming the lower portion of the gas generator shaft conical. By this construction the air on entering strikes the wall of the shaft at an angle and the ashes and cinders do not clog.

In order to prevent the accumulation of ashes and cinders upon the turntable, projecting arms are provided extending from the wall of the generator shaft over the turntable, which arms rake and agitate the ash and cinders upon the turntable and prevent the formation of clinker upon the turntable. The ashes and cinders coming from the grate which generally fall away in radial lines are deflected from the radial direction by means of guide plates inclined at an angle to the radii and attached at the bottom part of the grate by which means the

ashes and cinders are conducted away in a more satisfactory manner. The ashes are thus kept in constant motion and are removed from the turntable by a conveyer shovel which can be adjusted in position and is rotatable about a suitable axle. In another method of carrying out the invention, the grate is located obliquely upon the turntable so that the angle at which the air entering beneath the grate strikes the walls of the generator shaft is still further removed from a right angle. In this way the desirable result of reduction of wear of the walls of the generator shaft is further obtained. Another advantage of this arrangement is that the ash upon the grate is not pressed against the walls but upon the lower part of the table, the conical formation of the lower part facilitating this. By the foregoing construction again only a small amount of power is required for rotating the grate. By removing the body of the grate from the middle of the shaft, the center of gravity is correspondingly moved so that a swinging movement (*i. e.* movement of gyration) is set up which facilitates the operation and which is proportional to the square of the distance between the center of gravity and the middle of the grate.

The accompanying drawing shows two methods of carrying out the invention:—

Figure 1 is a cross section of the lower part of the generator constructed according to my invention. Fig. 2 is a horizontal section or plan of same; Fig. 3 is a vertical cross section of another method of carrying out the invention.

Referring to Fig. 1, the grate 2 which is located at the lower part of the gas generator shaft is of conical form, constructed from inclined bars 3 and in such a way that the air on entering is deflected from the horizontal direction as shown by the arrows Fig. 1.

Inclined deflector plates 5 are provided at the lower part 4 of the grate 2 and inclined at angles to the radii. These deflector plates deflect the falling ashes from the radial direction. The lower part 6 of the generator shaft is of conical form and provided with one or more projecting arms 7 which rake the ashes and cinders upon the turntable 8 during its rotation. The ashes are removed by means of the conveyer shovel 9 from the turntable 8. The conveyer shovel 9 is mounted upon the shaft 10

upon a framing provided on the wall of the generator and may be actuated by means of a handwheel 11, or in some other suitable manner, and brought into different positions as required.

5 The turntable may be mounted upon balls or rollers in the ordinary way and rotated by means of a worm and worm wheel or toothed gearing.

10 In the method of carrying out the invention shown at Fig. 3 the turntable 8 which rotates in the ordinary way is provided with a grate 4 mounted thereon in an inclined position. The grate bars 3 with this construction are so arranged in planes inclined
15 to the horizontal that the angle at which the air passing through the grate strikes the walls of the generator is more acute than is

the case with the first method of carrying out the invention.

What I claim and desire to secure by Letters Patent in the United States of America is:—

In a gas generator, a turntable, a conical grate supported thereby, said grate being
25 composed of sections surmounting one another with air spaces between, the conical grate being supported at an inclination from the center line in respect to the turntable, substantially as described.

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

HERMANN GADERMAYR.

Witnesses:

PAUL ARRAS,
CLARE SIMON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."