

F. MÜLLER.
GAS PRODUCER.
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937,687.

Patented Oct. 19, 1909.

Fig. 1.

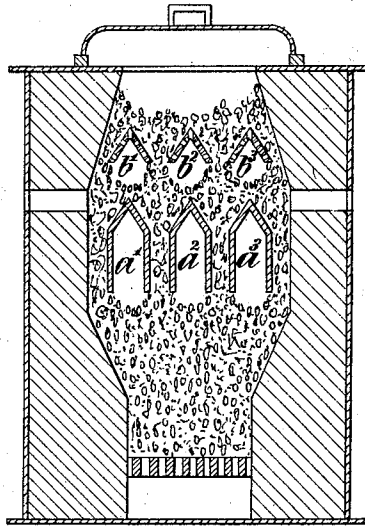
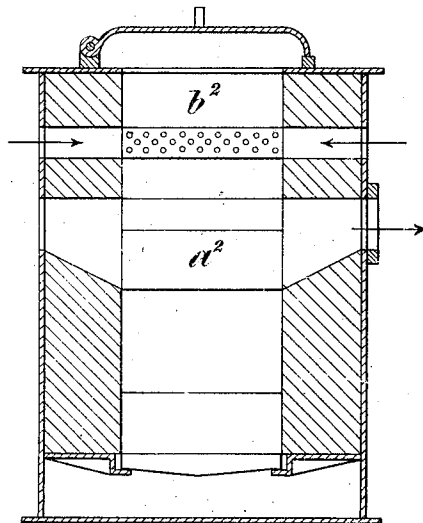


Fig. 2.



WITNESSES

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FRITZ MÜLLER, OF DARMSTADT, GERMANY.

GAS-PRODUCER.

937,687.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRITZ MÜLLER, engineer, subject of the Emperor of Germany, residing at Darmstadt, Grand Duchy of Hesse, Empire of Germany, have invented certain new and useful Improvements in Power Gas-Producers, of which the following is a specification.

It has hitherto been impossible to convert fine granular or brittle bituminous fuel into gas in gas-producers having a shaft form. For the purpose of producing heating gas such material is conveyed into gas producers with stepped grates and in these distilled in comparatively thin layers, as thicker layers of the fine granular and brittle fuel more particularly in rubbish heaps such as are formed in shaft gas producers, offer such a resistance to the air for combustion that such gas producers cannot be permanently maintained in action either with natural or forced draft. This drawback becomes especially apparent when such material is to be used for the production of power gas, for which, as is well known, two furnaces are necessary, one for distilling the fuel and the other for converting it into gas, the latter of which grates also serves for decomposing the tarry distillation products formed during the distillation period. Now it is an indispensable preliminary condition for the production of power gas, that the distillation and also the decomposition of the tar products shall be a complete one, immaterially whether the two furnaces necessary therefor in the shaft gas producer are separate chambers or combined into a single furnace. This preliminary condition can however only be fulfilled if the fuel, both in the hearth in which the distillation takes place and also in the furnace in which the decomposition of the tar products and the actual conversion into gas takes place can develop in sufficient thickness of layer. In order to comply with these requirements it has always been necessary in shaft gas producers to work with considerable thickness of the layers whereby of course the use of fine granular and brittle fuel is excluded.

This invention has for its object a gas producer which is preferably adapted for fine granular brittle fuel.

The invention consists of insertions or bridges being provided in the generator, which bridges owing to their peculiar form relieve fuel lying on the furnace hearth from

the pressure of the coal lying above it and at the same time divide the hearth into separate compartments of small height.

In the accompanying drawings, Figure 1 is a vertical, sectional view of an apparatus, embodying my invention. Fig. 2 is a similar view, taken on a section line substantially at right angles to the section line of Fig. 1.

A form of construction of the invention is shown in the accompanying drawings in two sections made at right angles to one another. The bridges a^1 a^2 a^3 arranged in proximity to one another, which bridges may be made of cast iron and firebrick, serve for relieving the pressure of the coal lying between them. Certain of these insertions are also utilized as discharge passages as shown in Fig. 2. The insertions b^1 b^2 b^3 arranged over the first named ones also serve for relieving the pressure and introducing air (Fig. 2). The walls of one or all of the bridges are for this purpose preferably provided with perforations, thus enabling the air to be introduced at various heights so that furnaces of considerable heights may be obtained without the air resistances being thereby increased and thereby the introduction of air rendered more difficult.

I declare that what I claim is:—

1. The combination, with a gas generator, of bridges extending transversely of the fuel chamber, said bridges being arranged in groups or series, those of one group being above those of another group, and said upper bridges having inclined walls adapted to support the weight of the fuel in the chamber and having perforations in said inclined walls for the purpose specified.

2. The combination, with a gas generator, of a series of bridges a^1 , a^2 and a^3 extending transversely of the fuel chamber and having exits at their ends for the escape of the gas, and fuel supporting bridges arranged above said first named bridges and communicating with the open air and having perforations in their walls.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

FRITZ MÜLLER.

Witnesses:

PH. SCHEIDT,
KARL GARTNER.