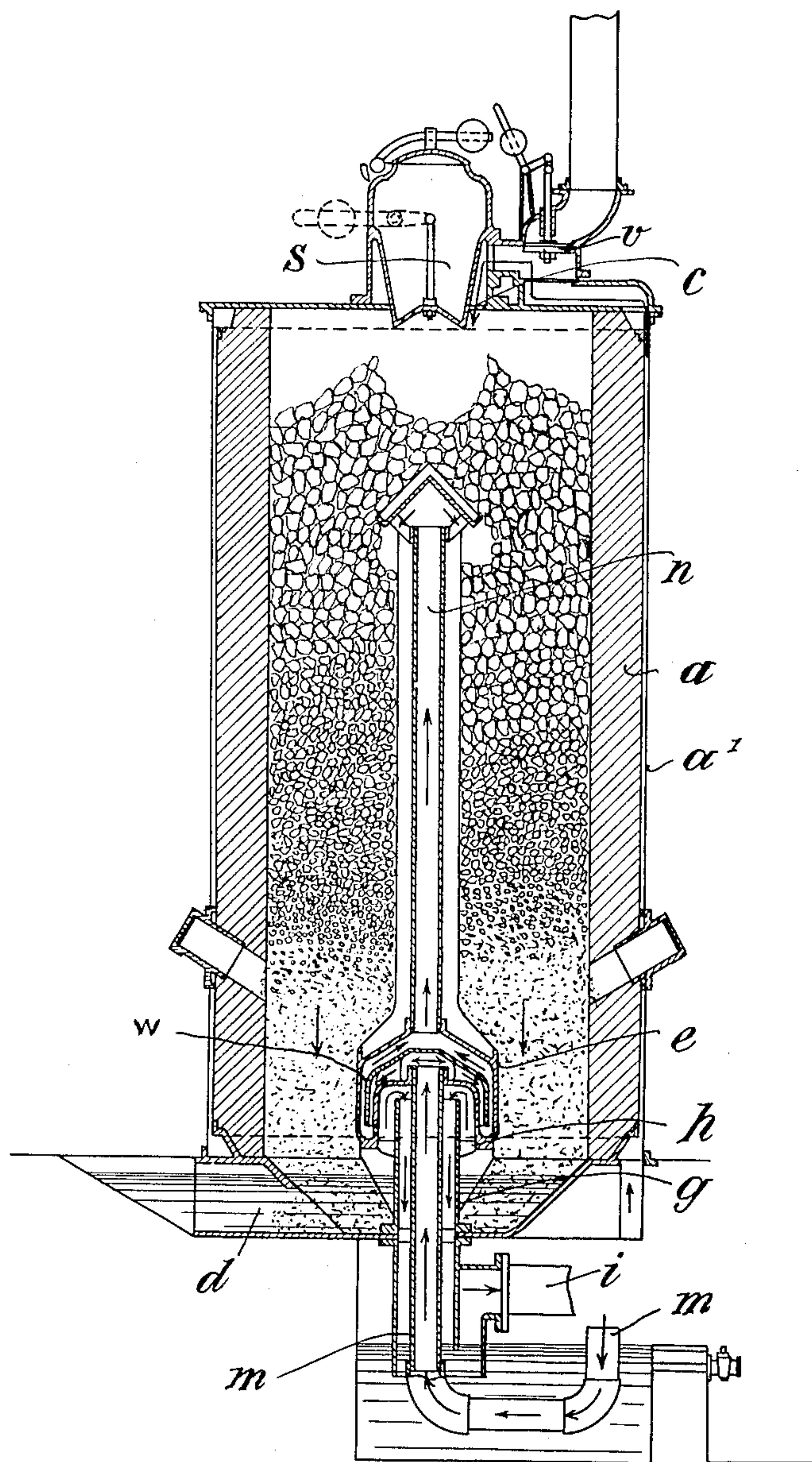


No. 875,813.

PATENTED JAN. 7, 1908.

C. HEINZ.  
GAS GENERATOR.  
APPLICATION FILED AUG. 19, 1907.



Witnesses:  
J. M. Smith Jr.  
A. K. Bridge

Carl Heinz,  
Inventor,  
By Davis & Davis  
Attorneys



# UNITED STATES PATENT OFFICE.

CARL HEINZ, OF GÖRLITZ, GERMANY.

## GAS-GENERATOR.

No. 875,813.

Specification of Letters Patent.

Patented Jan. 7, 1908.

Application filed August 19, 1907. Serial No. 389,215.

*To all whom it may concern:*

Be it known that I, CARL HEINZ, a subject of the King of Prussia, residing at Biesnitzerstr. 79, Görlitz, Germany, have invented a certain new and useful Improvement in Gas-Generators, of which the following is a specification.

The present invention has for its object a gas-generator without a grate particularly suited for bituminous fuel.

Gas-producers are known in which steam or preliminarily heated air are supplied to the combustible in quantities depending on the percentage of water in the same, the gases being withdrawn from the central axis of the generator, namely, out of the hottest zone. When the gases are withdrawn in such a case from below, a hood is arranged over the gas delivery-pipe in such a manner that no coal, ashes, etc. can fall into this pipe. In this case the defect arises that on the one hand the gas delivery-pipe and the hood soon burn, and on the other hand the great heat of the gases which are drawn off is for the most part completely lost for the work of the gas-producer.

Now in accordance with the present invention an air-receptacle is arranged round the end of the gas delivery-pipe situated under the hottest zone, in such a manner that the gases which are being drawn off give up their heat to the air, and warm the air which is compelled by means of a partition to flow along outside the walls. The air which is thus preliminarily heated is conducted into the gas-producer in a higher zone.

In the accompanying drawing one embodiment of the new generator is represented by way of example in vertical sectional elevation.

The gas-producer which is filled with fuel through a hopper *s* consists of a double casing *a*, *a'*, in the annular chamber of which the air for combustion is preliminarily heated by the heat which radiates from the shaft. The air enters from behind a valve *v* at *c* in a warmed condition into the generator. The fuel is carried by the ashes and clinker; a water-lock is provided below at *d*.

Below the hottest zone of the shaft in its central axis is situated the gas delivery-pipe *g* and over the latter a hollow hood or cap *e*. The cap is arranged over the pipe *g* in such a manner that another annular chamber *h* remains between the cap and the pipe. In the pipe *g*, however, there is arranged a pipe *m* which conducts the air into the cap or hood *e*. The gases which are produced in the generator first flow round outside the hood and then inside the same, passing through the annular chamber *h* into the pipe *g*. The partially cooled gases are sucked away at *i*. In order that the air shall contact the sides which are swept by the gases as much as possible, a partition *w* is arranged in the hood which compels the air to flow along the sides which are swept by the gas.

The heated air is conducted from the hood or cap *e* through a pipe *n* into the upper part of the generator.

If instead of the air-receptacle a water-receptacle is employed, the same will be arranged in such a manner that the steam is conducted into the generator in the hottest zone.

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

In a gas generator, a casing having a gas delivery pipe passing down through the bottom of the same from the fuel chamber, an air supply pipe passing up through this gas delivery pipe and carrying a hood at its upper end which incloses the upper end of said delivery pipe and is made hollow, an upwardly extending air pipe leading from the upper side of this hood, and a cap-like partition *w* inclosed within the hood and having its annular side wall depending into the depending hollow part of the hood, for the purpose set forth.

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

CARL HEINZ.

Witnesses:

R. PAUL THOMPSON,  
ROBERT V. BÜLOW.