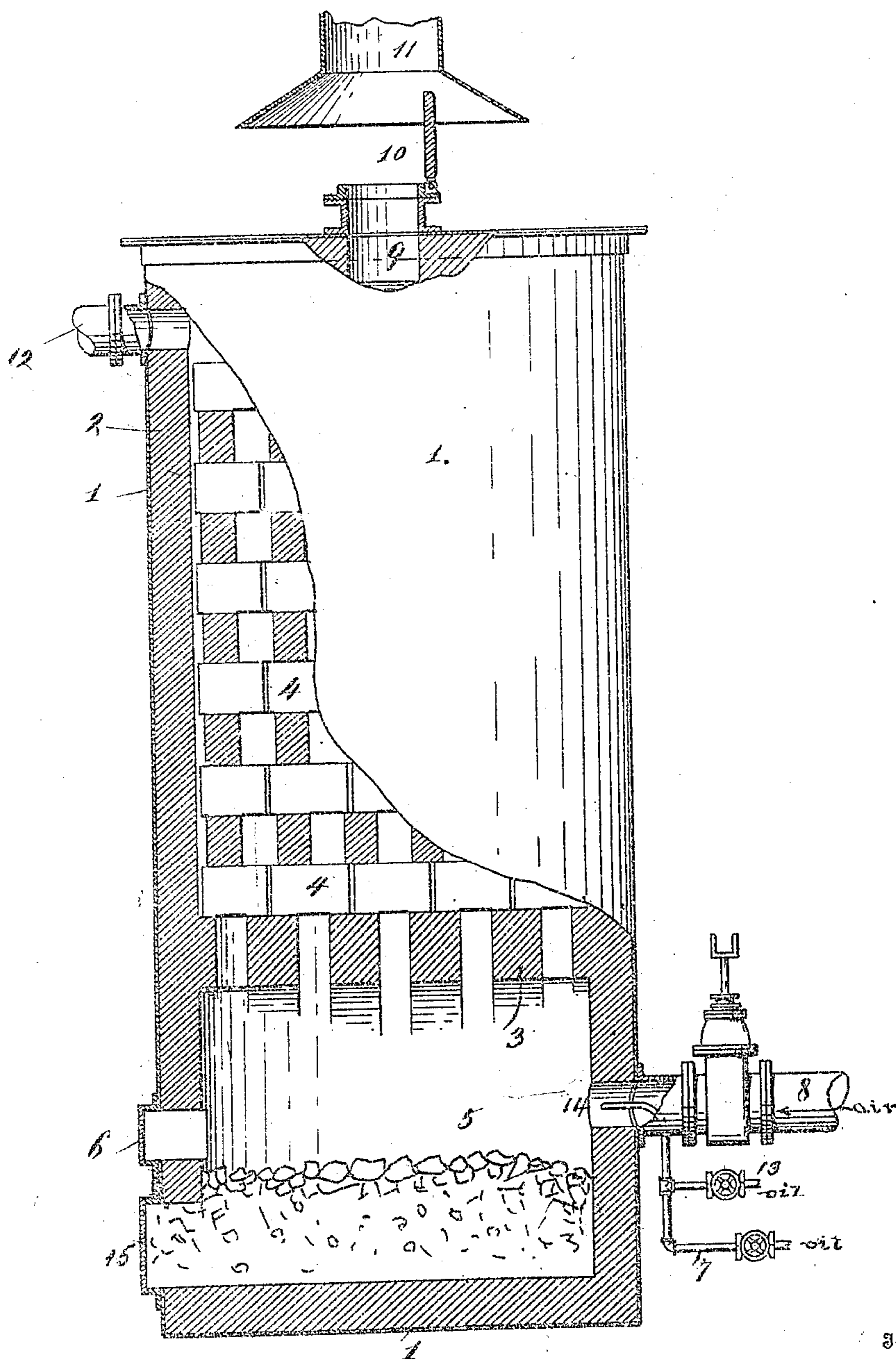


No. 819,663.

PATENTED MAY 1, 1906

L. P. LOWE.
METHOD OF COKING AND MAKING GAS.
APPLICATION FILED MAY 3, 1904.



Witnesses

Besser Gefunden

Inventor

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Attorney:

UNITED STATES PATENT OFFICE.

LEON P. LOWE, OF SAN FRANCISCO, CALIFORNIA.

METHOD OF COKING AND MAKING GAS.

No. 819,663.

Specification of Letters Patent.

Patented May 1, 1906.

Application filed May 3, 1904. Serial No. 206,245.

To all whom it may concern:

Be it known that I, LEON P. LOWE, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Methods of Coking, of which the following is a specification.

This invention relates to an improved method of coking, and is especially valuable for utilizing for this purpose the tarry residues from gas-making. Heretofore these residues have been used for feeding furnaces. The object of my invention is to provide a more economical method of utilizing the same. In my improved method I separate said tarry residues into hydrocarbon gases and coke, and I therefore not only utilize the heat of combustion of the hydrocarbon gases for any desired purpose, as for heating refractory material for gas-making or otherwise, or use said hydrocarbon gases directly as commercial gas, but in addition I obtain a valuable commercial product—namely, coke.

One of many forms of apparatus which may be used for carrying out my improved method is shown in the accompanying drawing.

In said drawing the figure is a vertical section of a gas-generating apparatus.

Referring to the drawing, 1 represents a casing lined with refractory material 2. Upon arches 3 are supported loose piles of refractory material 4. The lower portion of said casing below said arches forms a combined coking and combustion chamber 5, into which bituminous coal or the tarry and other carbonaceous residues from gas-making may be fed through the door 6.

7 is a steam-supply pipe, 13 an oil-supply pipe, and 8 an air-supply pipe for burning oil at the burner 14 above said coal or tarry residues in said coking-chamber.

9 is a flue closed by a valve 10, leading to the stack 11.

12 is a pipe for conducting off the gas generated in the casing.

15 is a door which is opened to remove the coke.

The process is as follows: Coal or tarry residues having been fed into the coking-chamber, oil is admitted to the oil-burner 14 and air is supplied for combustion of said oil. The flames and hot gases arising from the combustion of the oil pass through the arches

3 and highly heat the same. The residues in the coking-chamber are thus coked by the radiant heat from the arches 3 of said chamber and also by the combustion of the oil and of the gases arising during the heating of said residues, as in the beehive process of making gas from bituminous coal, sufficient air being supplied for the combustion of said gas. The products of combustion of the oil and gases, after highly heating said arches 3, pass through the piles of refractory material 4, highly heating the same and then escaping by the flue 9 and stack 11. The air is now shut off, the valve 10 is closed, and steam and oil are passed by the pipes 7 and 13 through the highly-heated refractory material, making gas therefrom in the usual manner. At the same time the gas which continues to be distilled from the coal or tarry residues is added to the gas thus formed and with said gas is conducted by the pipe 12 to the washers and scrubbers in the usual manner. By this method the tarry residues are utilized more economically than heretofore, as their heat values assist in gas-making and coke is obtained as a product of the process.

However, my invention is not limited to the use of tarry residues in operating this process, but covers also, broadly, the coking of coal thereby.

I claim—

The method of simultaneously coking and making gas which consists in charging hydrocarbonaceous material into a coking-chamber, then admitting oil and air into said chamber and burning the oil above said hydrocarbonaceous material and at the same time heating a body of refractory material to partly coke the hydrocarbonaceous material, and then discontinuing the admission of air but continuing the admission of oil into said chamber and passing the vapors of said oil so admitted together with the vapors or gases distilled from the hydrocarbonaceous material through the refractory material to make gas, substantially as described.

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

L. P. LOWE.

Witnesses:

FRANCIS M. WRIGHT,
BESSIE GORFINKEL.