

(No Model.)

C. J. B. GAUME.
GAS ENGINE.

No. 302,478.

Patented July 22, 1884.

Figure 1.

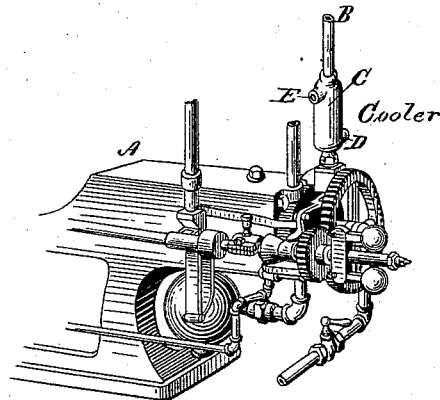
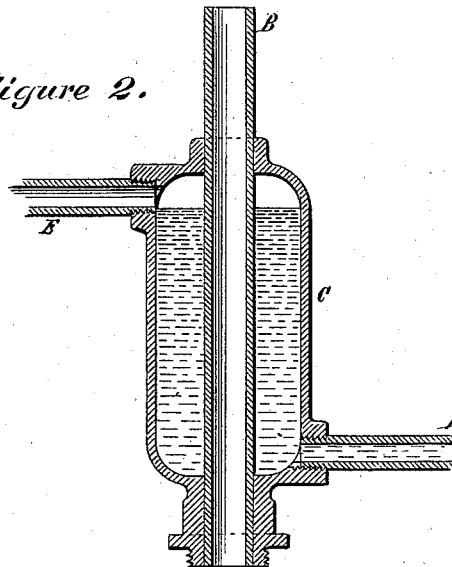


Figure 2.



Witnesses:
A. G. Farnham
F. Beardsley

Inventor:
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by Foster & Freeman
attys

UNITED STATES PATENT OFFICE.

CHARLES J. B. GAUME, OF BROOKLYN, ASSIGNOR TO THE CONTINENTAL
GAS ENGINE COMPANY, OF NEW YORK, N. Y.

GAS-ENGINE.

SPECIFICATION forming part of Letters Patent No. 302,478, dated July 22, 1884.

Application filed December 15, 1883. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. B. GAUME, of the city of Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Gas-Engines, of which the following is a full, true, and exact description, reference being had to the accompanying drawings.

This invention relates to a method of cooling to a degree below the normal temperature the gas to be exploded in gas-engines, whereby, the gas being less in volume when admitted to the engine than it otherwise would be, a more beneficial result is derived from its subsequent heating by the explosion.

My invention will be readily understood from the accompanying drawings, in which Figure 1 is an elevation of sufficient of a gas-engine to illustrate my invention. Fig. 2 is a detached sectional view.

A represents a gas-engine, preferably of the form patented to me on the 3d day of May, 1881, No. 240,994; but any other form may be used. The gas delivered to this engine passes through the pipe B. Surrounding this pipe is the cooling water-chamber C, provided with two connections, D and E. A circulation of water is maintained, said water entering the cooling-chamber by the pipe D and leaving it by the pipe E. The gas, entering by B and passing through said water, is cooled before entering the gas-engine, whereby a noticeable increase in power is obtained.

Other methods of connecting the cooler may be employed; but the one shown is simple and efficacious.

I am aware that in gas-engines the inlet gas-passages have sometimes extended through parts of the cylinder inclosed by the water-jackets; but in such cases the action of the jacket is merely to prevent ignition or overheating of the gas, whereas my invention consists in subjecting the gas to a temperature below that of the external air, and much below that of the jacketed cylinder, whereby it is not only cooled, but greatly condensed.

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

1. The mode of securing an increased charge for gas-engines, consisting in first cooling the gas below the normal temperature to reduce its volume and increase its density, and in introducing it while thus cooled and condensed into the explosion-chamber, substantially as described.

2. The combination of the cylinder, gas-inlet pipe, and water-jacket surrounding said pipe at a point beyond and free from contact with the cylinder, to prevent the convection of heat, as set forth.

C. J. B. GAUME.

Witnesses:

GEO. H. EVANS,
WILLIAM A. POLLOCK.