No. 817,649. PATENTED APR. 10, 1906.

L. P. LOWE.

APPARATUS FOR MANUFACTURING AND DELIVERING GAS.

APPLICATION FILED AUG. 8, 1905.

FIG. 1

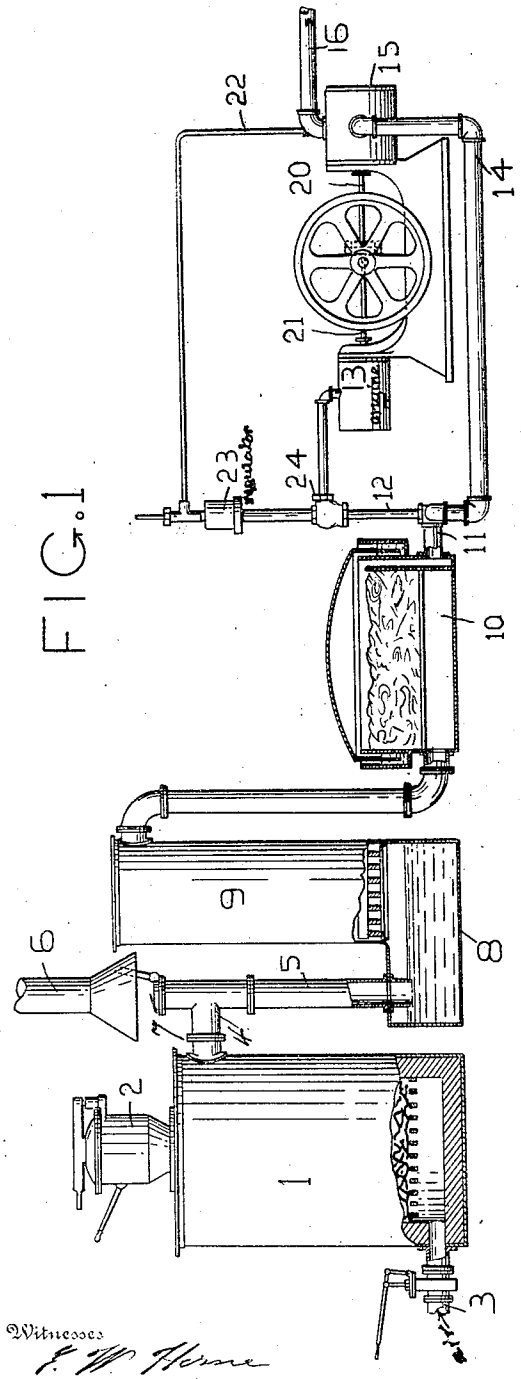
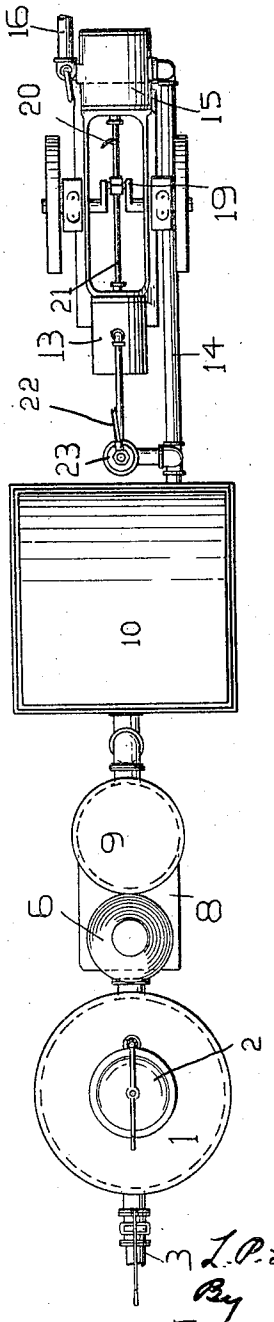


FIG. 2



Witnesses

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APPARATUS FOR MANUFACTURING AND DELIVERING GAS.

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Application filed August 8, 1905. Serial No. 273,311.

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 Apparatus for Manufacturing and Delivering Producer-Gas, of which the following is a specification.

This invention relates to an improved apparatus for manufacturing and delivering producer-gas, the object of the invention being to provide an apparatus by means of which part of the gas may be utilized to deliver the gas for consumption at a distance and also to effect the production of succeeding quantities of gas and which will also enable the producer-gas to be manufactured at the same rate as it is consumed, whereby the necessity of gas-holders for storing the gas is avoided.

In the accompanying drawings, Figure 1 is a broken side elevation of the apparatus. Fig. 2 is a plan view thereof.

Referring to the drawings, 1 indicates a gas-making chamber for manufacturing producer-gas in the well-known manner, fuel being supplied from time to time by a hopper 2 and air being supplied through the inlet 3. The gas thus produced passes by an outlet-pipe 4 into a vertical pipe 5, which may be opened at the top to permit the products of combustion, when preliminarily firing the fuel in the chamber 1, to pass off up the stack 6. In making gas, however, said pipe 5 is closed at the top by a valve 7, so that the gas passes into a washer 8, thence to a scrubber 9, and thence to a purifier 10. From said purifier the gas passes by a pipe 11, which has two branches, one branch 12 leading to an engine 13, and the other branch 14 leading to a compressor 15, which delivers the gas to a service-pipe 16. The compressor 15 is operated by a pitman 20, connected with the crank-shaft 19, with which is also connected the pitman 21, connected with the piston-rod of the engine 13. Thus the compressor is operated direct from the engine, driven by part of the producer-gas diverted from the main current which is supplied to the consumer.

The engine 13 may be either a gas-engine or it may be any other engine which can be driven indirectly by means of the producer-gas—as, for instance, a steam-engine operated by means of steam generated by the combustion of gas. However, the gas-engine is preferable and is here shown.

From the service-pipe 16 leads a pressure-pipe 22 to a regulator 23, which controls the valve 24, supplying gas to the engine 13. By this means the power generated by the engine may be made to correspond with the pressure in the service-pipe—that is to say, when the consumption of producer-gas at a distant point increases the valve 24 is automatically opened wider to supply a larger quantity of gas to the gas-engine, generating more power to operate the compressor to force the producer-gas through the service-pipe and to draw it from the gas-making apparatus, and, conversely, when the consumption diminishes the valve 24 is automatically moved to reduce the amount of gas supplied to the gas-engine. By this means the amount of gas produced is made to correspond precisely with the consumption, so that no gas-holders are required for storing the gas, the gas being consumed as soon as it is generated. In this way the gas can be supplied at very small cost, the expense of the apparatus being comparatively small.

I claim—

1. In combination with an apparatus for manufacturing gas, a service-pipe, a compressor for supplying gas thereto, an engine for operating said compressor, a pipe leading from the gas-making apparatus to the compressor, a branch pipe leading from the latter pipe and supplying gas to operate said engine, a valve controlling the passage of gas in the branch pipe, a regulator for said valve and a pipe connecting said regulator with the service-pipe, whereby the engine is operated in correspondence with the pressure in said service-pipe, substantially as described.

2. In combination with an apparatus for manufacturing gas, a service-pipe, a compressor for delivering the gas thereto, a pipe leading from said apparatus to said compressor, an engine for operating said compressor, a valve for controlling the motive fluid to said engine, a regulator for said valve, and a pipe connecting said regulator with the service-pipe, whereby the engine may be operated in correspondence with the pressure in said service-pipe, substantially as described.

3. In combination with an apparatus for manufacturing gas, a service-pipe, a compressor for delivering the gas thereto, a pipe

leading from said apparatus to said compressor, an engine for operating said compressor, a valve for regulating said engine, a regulator for said valve, and a pipe connecting said regulator with the service-pipe, whereby the engine may be operated in correspondence with the pressure in said service-pipe, substantially as described.

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

L. P. LOWE.

Witnesses:
EDITH WOODWARD,
BESSIE GORFINKEL.