

48. GAS, HEATING & ILLUMINATING,

Acetylene, Generators,

Water-feed,

Holder operated.

Holder operated

E. N. DICKERSON.

AUTOMATIC ACETYLENE GAS APPARATUS.

No. 561,208.

Patented June 2, 1896.

Fig. 3

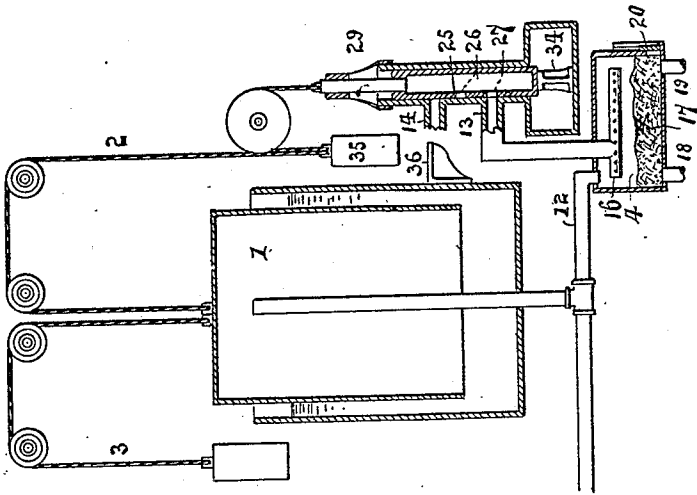


Fig. 2

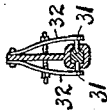
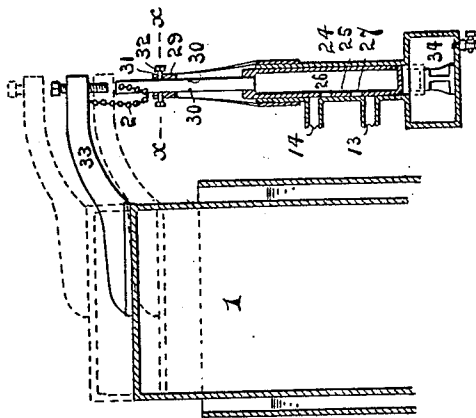


Fig. 1



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EDWARD N. DICKERSON, OF NEW YORK, N. Y.

AUTOMATIC ACETYLENE-GAS APPARATUS.

SPECIFICATION forming part of Letters Patent No. 561,208, dated June 2, 1896.

Application filed June 5, 1895. Serial No. 551,785. (No model.)

To all whom it may concern:

Be it known that I, EDWARD N. DICKERSON, a citizen of the United States, residing in the city, county, and State of New York, have invented a new and useful Improvement in Automatic Gas-Producing Apparatus, of which the following is a specification.

This invention relates to an apparatus by means of which gas may be automatically produced by the union of water with a gas-producing body—as, for instance, calcic carbide. By means of this apparatus water can be automatically fed in determined quantities to the calcic carbide as the gas is consumed. It takes a considerable period after the water has been fed upon the calcic carbide to produce the gas after the first few operations by reason of the fact of the forming of a coating of lime upon the surface of the calcic carbide. It is therefore essential that too much water shall not be fed. By my apparatus only so much water is fed at one operation as is determined in advance.

My invention will be readily understood from the accompanying drawings, in which—

Figure 1 is a vertical cross-section of a part of my apparatus; Fig. 2, a cross-section through Fig. 1 on the line X X, and Fig. 3 a view of my complete apparatus in slightly modified form from that shown in Fig. 1.

1 represents an ordinary gas-holder capable of vertical movement. This holder is supplied with gas through the pipe 12, communicating with the calcic-carbide chamber 4, said calcic carbide being represented by 17. The chamber may be cleaned of lime at intervals by the wash-out pipes 18 or 19 or by a man-hole 20. The water to generate the acetylene is sprayed upon the material through the spray 16, communicating with pipe 13. This water is fed to the automatic valve 25 by means of a supply entering through pipe 14.

The valve itself is a cylindrical pipe 25, closed at both ends and operated by the holder 1. It is surrounded with a closely-fitting pipe 24, having ports 13 and 14 therein. The valve 25 has ports 26 and 27, the port 26 being adapted to register with the port 14 and the port 27 alternately with the port 13.

As shown in Fig. 3, the valve is operated by the counterweight 35, controlled by a cord 2, operated from the holder 1. The said counterweight 35 is independently attached to the holder 1 and the valve 25. As the holder

rises the counterweight 35 falls until it rests upon the support 36, when the port 26 will correspond with the port 14 and the interior valve become filled with water. As the holder 1 falls by the consumption of the gas the counterweight 35 is raised, and the valve 25 falls until the port 27 registers with the port 13, when the water within the valve-chamber is delivered to the gas-generating chamber 4, when the holder again rises and the operation is repeated.

In Fig. 1 the operation is substantially identical excepting that the valve is connected directly with the holder by the arm 33. The valve-stem has two sockets 30, in which pins 31 may enter when the valve is sufficiently raised by the chain 2. The pins 31, controlled by the springs 32 on the bracket 29, seize the vertical stem and prevent the valve falling by its own weight (though it may be raised) until the upper end of the stem is struck by a set-screw on the arm 33 at the time when the holder is emptying. Then it falls by its own gravity and the water empties into the chamber 4.

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

1. The combination of the vertically-moving cylindrical feeding-in valve 25 with holder 1, and connection from said holder for operating said valve, said valve being provided with a casing having connections 14 and 13, and with openings therein registering with the openings in said valve-casing, and the generating-chamber 4, suitably connected with said valve, substantially as described.

2. The combination of the vertically-moving cylindrical feeding-in valve 25, provided with locking device 31, with holder 1 and connection from said holder for operating said valve, said valve being provided with a casing having connections 14 and 13, and with openings therein registering with the openings in said valve-casing, and the generating-chamber 4, suitably connected with said valve, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

E. N. DICKERSON.

Witnesses:

ANTHONY GREF,
HARRY CONTOUT.