

No. 696,418.

Patented Apr. 1, 1902.

E. N. DICKERSON.

APPARATUS FOR GENERATING ACETYLENE GAS.

(Application filed June 12, 1897.)

(No Model.)

Fig. 1,

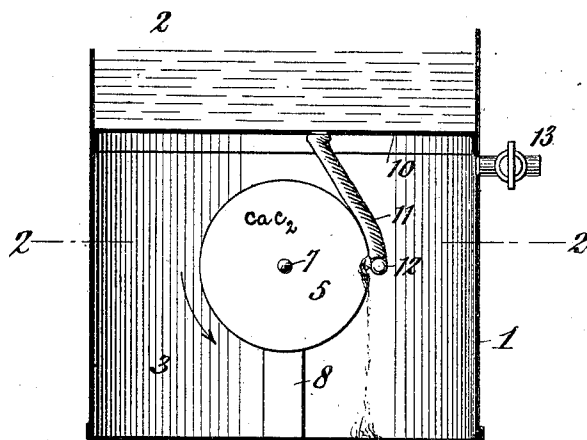
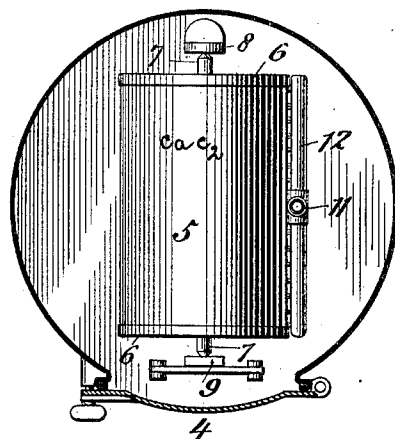


Fig. 2



WITNESSES:

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APPARATUS FOR GENERATING ACETYLENE GAS.

SPECIFICATION forming part of Letters Patent No. 696,418, dated April 1, 1902.

Application filed June 12, 1897. Serial No. 640,474. (No model.)

To all whom it may concern:

Be it known that I, EDWARD N. DICKERSON, of the city, county, and State of New York, have invented new and useful Improvements in Apparatus for Generating Acetylene Gas, of which the following is a specification.

The present invention relates to improvements in apparatus for generating acetylene gas.

The special object of the invention is to provide a simple construction for generating acetylene gas, in which construction the calcium carbide is made in the shape of a cylinder and the supply of fluid thereto for generating the gas operates to cause the carbide cylinder to present new surfaces to which the fluid is applied in the operation of generating the gas.

In the drawings I have shown a construction which embodies the invention, in which—

Figure 1 is a central vertical section, certain parts being shown in full. Fig. 2 is a section along line 2 2 of Fig. 1.

In the several views of the drawings like figures of reference refer to like parts.

Referring to the drawings in detail, 1 represents a suitable receptacle, which is here shown as cylindrical. This receptacle is divided into two compartments 2 and 3, the compartment 2 being situated above the compartment 3 and holding the supply of fluid. The compartment 3 is provided with a door 4 at its side, which is capable of hermetically closing said compartment. A cylinder of carbide 5, mingled with a suitable agglomerating agent, as is now well known, is suitably supported in the compartment 3. As shown in the drawings, the cylinder is supported by cap-pieces 6, provided with journals 7, mounted in standards 8 and 9, the standard 9, situated nearest the door 4 in the compartment 3, being removably mounted, so as to permit of the carbide cylinder being withdrawn and a new one placed in position. A diaphragm 10 divides the receptacle into compartments 2 and 3 and is provided with an opening, communicating with which opening is a flexible tube 11, extending downwardly into the compartment 3. The lower end of this flexible

tube carries a transverse pipe 12, provided with apertures through which the fluid is supplied to one side of the carbide cylinder 5.

13 designates a cock for drawing off the gas generated in the operation of the device.

The operation of the device will be obvious. Fluid is gradually admitted through the flexible tube and transverse pipe to the side of the carbide cylinder, thus causing the generation of acetylene gas. When the pressure of the gas exceeds the desired amount, the flow of water ceases, or other well-known regulating devices may be employed. The refuse matter from the carbide cylinder falls upon the bottom of the receptacle, thus diminishing the weight on that side of the cylinder. By the action of gravity the cylinder then will rotate slowly in the direction of the arrow and correspondingly to the amount of gas generated and the refuse thrown off from the cylinder, thus continually presenting a new surface to be acted on by the fluid-supply from the compartment 2.

I do not limit myself to the exact form or device here shown, intending to cover, broadly, presenting fresh surfaces of carbide to a disintegrating fluid by reason of the movement of the carbide affected by the diminution in weight, consequent upon its partial destruction.

What is claimed as new is—

1. In a gas-generating apparatus, the combination with a generating-receptacle, of a solid gas-generating reagent rotatably mounted within said receptacle, and means for applying a second reagent upon one side of said solid reagent, and thereby decompose the latter in such manner that it will rotate by gravity and present other parts of its surface to the action of said second reagent, substantially as described.

2. In a gas-generating apparatus, the combination with a receptacle, of a solid reagent rotatably mounted therein, a flexible conduit in communication with a fluid-supply, and a perforated tube supported by and in communication with said conduit and adapted to supply fluid to one side of said solid reagent, and thereby decompose the latter in such manner that it will rotate by gravity and pre-

sent other parts of its surface to the action of the fluid, substantially as described.

3. In a gas-generating apparatus, the combination with a receptacle, of a solid reagent
5 rotatably mounted therein, means whereby said reagent may be inserted and rotatably mounted in said receptacle, and means for applying a fluid to one side of said solid reagent, and thereby decompose the latter in
10 such manner that it will rotate by gravity

and present other parts of its surface to the action of said fluid, 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:

H. COUTANT,
D. W. MAXON.