

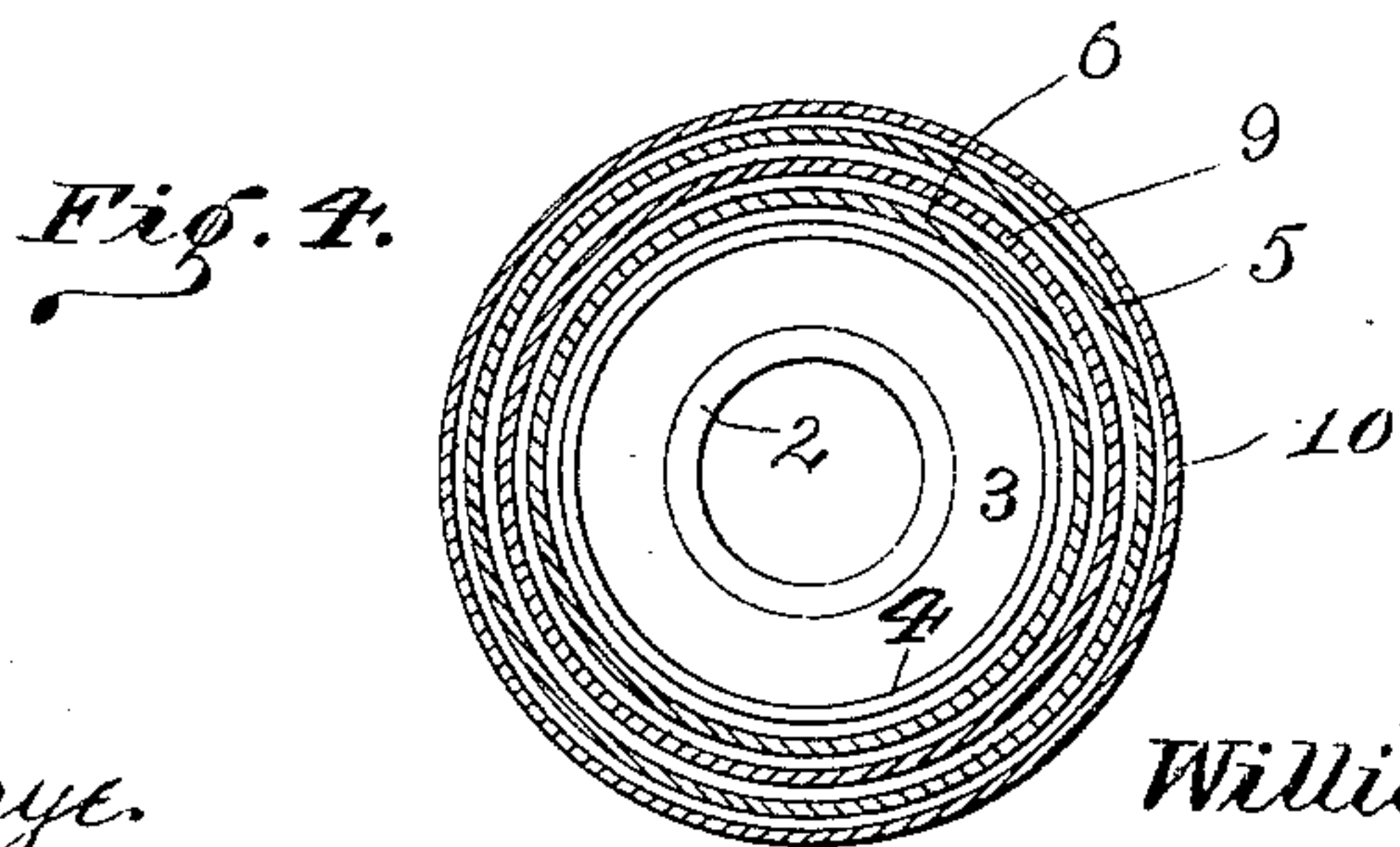
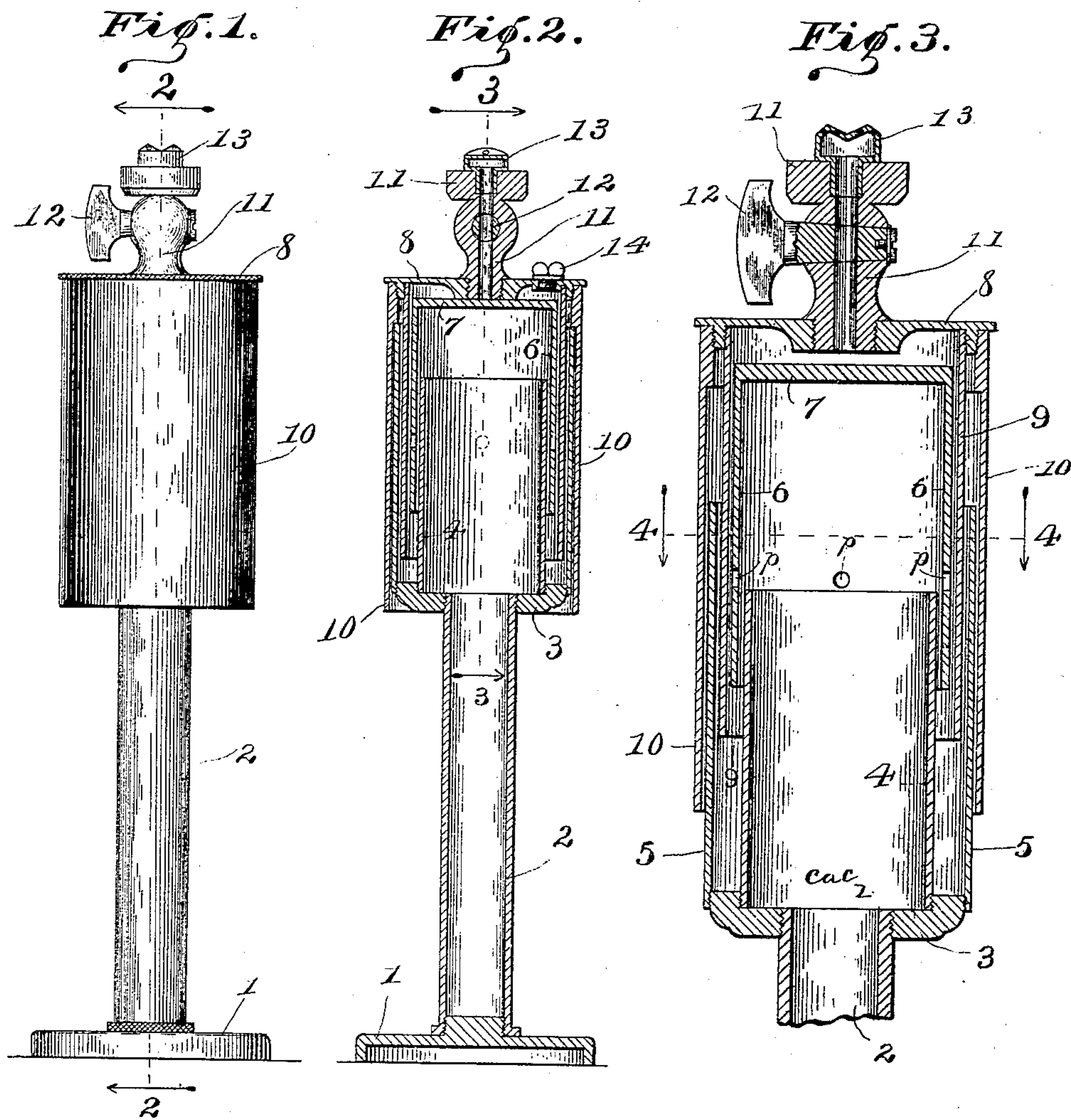
No. 632,887.

Patented Sept. 12, 1899.

W. A. VONCANON.
ACETYLENE GAS GENERATING LAMP.

(Application filed Sept. 6, 1898.)

(No Model.)



WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM A. VONCANON, OF INDIANAPOLIS, INDIANA.

ACETYLENE-GAS-GENERATING LAMP.

SPECIFICATION forming part of Letters Patent No. 632,887, dated September 12, 1899.

Application filed September 6, 1898. Serial No. 690,268. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. VONCANON, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Acetylene-Gas-Generating Lamps, of which the following is a specification.

The object of my said invention is to produce an apparatus for generating and burning acetylene gas. I have illustrated said apparatus in the form of a portable lamp, but obviously the same principle may be employed in many forms of apparatus for the purpose. Said invention will be first fully described and the novel features thereof then pointed out in the claims.

Referring to the accompanying drawings, which are made a part hereof, and on which similar reference characters indicate similar parts, Figure 1 is a side elevation of a lamp or apparatus embodying my said invention; Fig. 2, a central vertical sectional view of the same, as seen from the dotted line 2 2 in Fig. 1, with the inner movable cylinder raised somewhat by the internal gas-pressure and in contact with the lower end of the tube leading to the burner; Fig. 3, a central vertical sectional view of the upper portion of the device, on an enlarged scale, as seen from the dotted line 3 3 in Fig. 2, with the inner cylinder still further raised and the outer cylinder also somewhat raised; and Fig. 4, a horizontal sectional view looking downwardly from the dotted line 4 4 in Fig. 3.

This apparatus is shown as having a base 1, upon which it may stand. To this base is suitably secured a tube 2, upon the upper end of which is a flanged collar 3. Screwed inside of the flange or rim of the collar 3 is a tubular extension 4, and upon the outer side of said flange or rim is a tube 5, which extends to a greater height than the tubular extension 4. Surrounding the tubular extension 4 and extending down between it and the tube 5, is a loosely-mounted cylinder 6, having an imperforate head 7 at its upper end, and which has at a suitable point in its sides one or more perforations *p*. Above or outside the head 7 of this cylinder is another and larger head 8, having a downwardly-extending rim or flange. To the inner side of

said rim or flange is secured a cylinder 9, which is adjacent to but not in close contact with the cylinder 6, and is preferably somewhat longer than said cylinder, and to the outside of said rim or flange is secured the cylinder 10, which is long enough when the apparatus is in its non-inflated condition to completely cover the upper portion of the structure, as indicated in Figs. 1 and 2. Extending up from the head 8 is the pipe 11, containing, preferably, an ordinary gas-cock 12, and in the upper end of this pipe is a burner 13. Alongside the pipe 11 in the head 8 is a screw-plug 14, which when removed leaves an opening for the introduction of a fluid, such as water.

The operation is as follows: The cavity within the tube 2 and the greater portion of the space within the tubular extension 4 become a receptacle for carbide of calcium. The space between the tubular extension 4 and the tube or cylinder 5 becomes a receptacle for water or a similar fluid, a suitable quantity of which is placed therein. As the cylinder 6 and the cylinder 9 descend into this space they displace the water, causing it to rise above the upper end of the tubular extension 4 and to flow over into the cavity therein, thus coming in contact with the carbide of calcium, which as soon as dampened thereby immediately begins to form a gas. Very shortly a sufficient amount of gas is generated to raise first the cylinder 6 and its head 7, which becomes a holder or receptacle for the gas, and afterward through them the cylinders 9 and 10, with their head 8, until the perforations *p* in the cylinder 6 are above the upper edge of the tubular extension 4. As soon as this point is reached the gas will escape through said perforations and, rising between the cylinder 6 and the cylinder 9, which at this point also becomes a holder or receptacle for the gas, will raise the head 8 away from the head 7, permitting the gas to flow through the pipe 11 to the burner 13 when the cock 12 is properly turned. The parts are so proportioned that the receptacles or holders provided will contain as much gas as is generated by the small quantity of water which is first forced over into the cavity containing the carbide of calcium, while the weight of the telescopic parts furnishes sufficient pres-

sure to deliver said gas with sufficient force to the burner. As the gas is consumed these telescopic parts will descend, and when they have reached the predetermined point will
 5 displace more water and force the same over onto the carbid of calcium, so that more gas will be generated, and so on as long as the carbid of calcium provided lasts. The ash
 10 formed by the consumption of the carbid of calcium in the generation of the gas will pass over the upper edge of the tubular extension 4 and descend to within the space occupied by the water, thus aiding in the displacement of the
 15 latter. The water may be replenished from time to time, as desired, by removing the plug 14 and introducing water through the orifice which said plug is provided to fill.

Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, of a receptacle adapted to contain calcium carbid, an imperforate tube or cylinder open at the upper end surrounding and extending above said receptacle and
 25 leaving an intervening space adapted to contain a fluid, and a telescopic cylinder having a closed upper end, and perforations in its sides at a suitable distance from its lower end adapted to enter said space and displace
 30 the fluid therein causing the same to flow into the receptacle containing calcium carbid, and a separate surrounding cylinder having a burner attached thereto, the acetylene gas generated by the admixture of the fluid being
 35 adapted to escape through the perforations and flow to the burner, substantially as set forth.

2. The combination of a central receptacle adapted to contain calcium carbid, a receptacle surrounding the same adapted to con-

tain a fluid, an inverted cylindrical gas-holder adapted to enter the fluid-receptacle and displace the fluid therein, a second separate gas-holder surrounding the first and also adapted to enter the fluid-receptacle and assist in displacing the fluid therein, a pipe containing a
 45 cock carried by the head of the last-named cylindrical receptacle, and a gas-burner thereon beyond said cock, substantially as shown and described.

3. The combination, in a self-generating acetylene-gas lamp, of a suitable base, a tube carried by said base, a collar upon the upper end of said tube, a tubular extension carried from the inner side of a flange on said collar,
 55 a second tube carried by the outer side of the flange on said collar and extending to a higher level than the first, an inverted cylindrical gas-holder containing perforations above the lower end thereof and adapted to descend into the space between the two tubes on the collar and displace the fluid therein, a second
 60 inverted gas-holder surrounding the first and carrying a double cylinder or shell the inner one of which also descends into the fluid-receptacle and the outer one of which completely surrounds the upper portion of the
 65 apparatus or lamp, a gas-pipe containing a cock connected to the upper end of said last-named structure with a burner secured therein beyond the cock, all substantially as shown
 70 and described.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 1st day of September, A. D. 1898.

WILLIAM A. VONCANON. [L. S.]

Witnesses:

CHESTER BRADFORD,
 JAMES A. WALSH.