

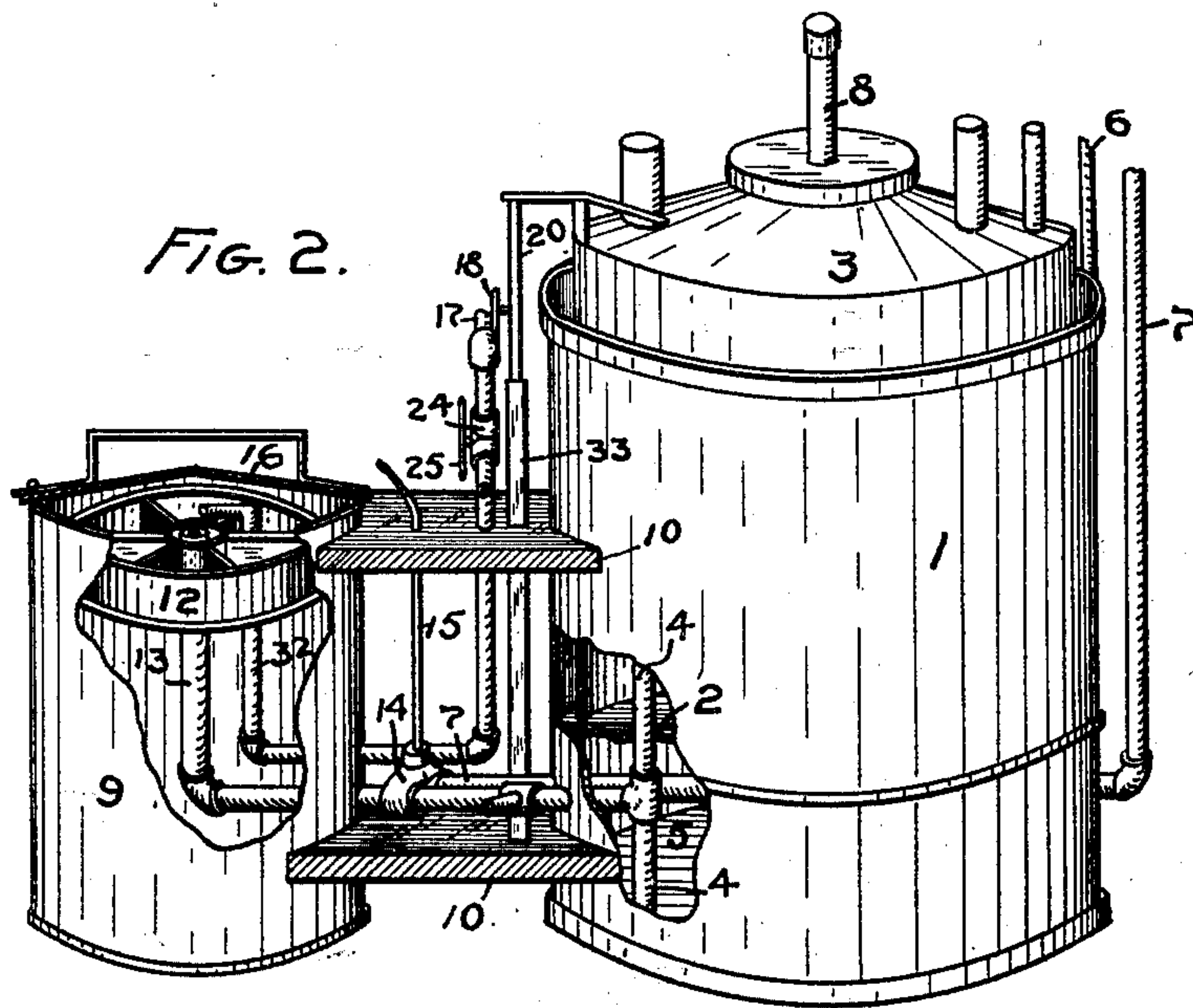
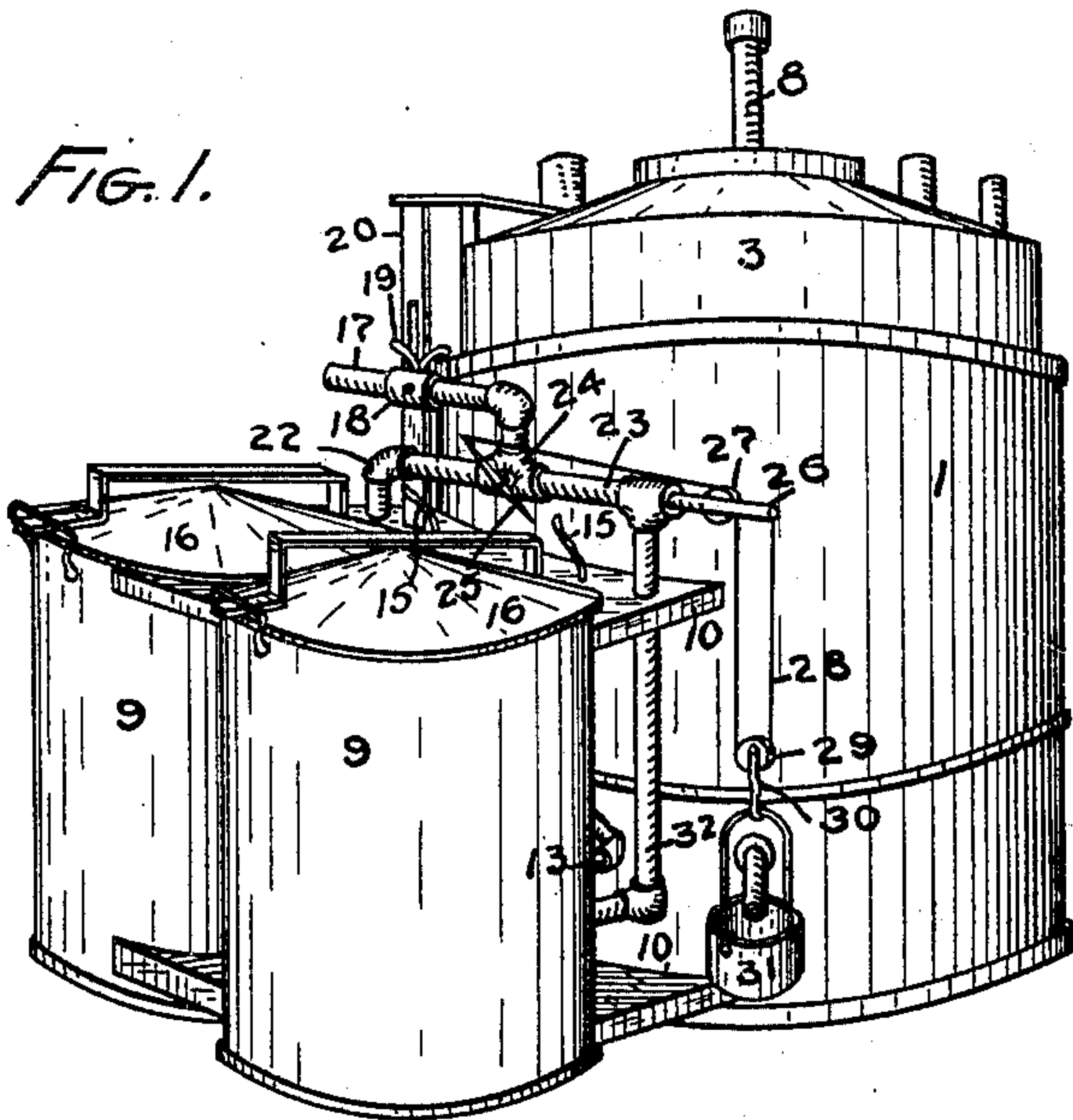
No. 674,980.

Patented May 28, 1901.

T. F. O'HERRON.  
ACETYLENE GAS GENERATOR.

(Application filed Mar. 30, 1900.)

(No Model.)



WITNESSES:

G. H. Blaker.  
H. D. Cost.

INVENTOR.

Thomas F. O'Herron.

BY

V. H. Lockwood  
His. ATTORNEY.



# UNITED STATES PATENT OFFICE.

THOMAS F. O'HERRON, OF PRINCETON, INDIANA, ASSIGNOR TO THE DOUGHERTY-O'HERRON COMPANY, OF SAME PLACE.

## ACETYLENE-GAS GENERATOR.

SPECIFICATION forming part of Letters Patent No. 674,980, dated May 28, 1901.

Application filed March 30, 1900. Serial No. 10,795. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS F. O'HERRON, of Princeton, county of Gibson and State of Indiana, have invented a certain new and useful Acetylene-Gas Apparatus; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like figures refer to like parts.

10 The object of this invention is to provide means whereby a plurality of generators are employed in an acetylene-gas apparatus for automatically causing said generators to operate in succession.

15 The advantage of such invention is that it enables one to provide means for the generation of gas through a considerable period of time without any attention. Thus in any given acetylene-gas apparatus by the mere addition of a second generator the period of operation of the apparatus without attention will be double, and with only a slight additional expense the capacity of any such apparatus can be doubled or multiplied.

25 The means herein shown for carrying out this invention consists in means for switching the water-supply for the carbid-holders from one generator to another. The switch is operated by the overflow water from the carbid-holder after the carbid is consumed. Thus as soon as the generation of gas ceases in one generator the water is switched from that generator and introduced into the second generator, and then the second generator takes up the work of generating gas. This may be continued, as the number of generators may be multiplied to suit the requirements in any given case.

40 The full nature of my invention will be understood from the accompanying drawings and the description following of one form of device embodying my said invention, and the scope of said invention will be understood from the claims following said description.

45 In the drawings, Figure 1 is a perspective of an acetylene-gas plant. Fig. 2 is a side elevation of the gas-receiver and vertical section between the generators, a part of the generator and a part of the gas-receiver being broken away.

In detail the construction herein shown for the purpose of disclosing the nature of my invention consists of a main tank 1, divided into upper and lower chambers by the partition 2. The upper chamber contains the bell-shaped gas-receiver 3, into which the gas as generated enters through the pipe 4. Said pipe 4 likewise extends downward into the lower chamber 5, which is a water-chamber or condensing-chamber, receiving the overflow and the condensation that arises in the operation of the apparatus.

6 is the service-pipe, and 7 an open-air pipe.

8 is a guide for the vertical movement of the gas holder or receiver.

There are shown in the drawings herein two generators 9, secured in relation to the tank 1 by the blocks 10. A carbid-holder 12 is mounted in the upper portion of each generator, that herein shown being divided into sections. The gas formed passes down through the pipe 13, that connects with the pipe 4. The pipe 13 has a three-way valve 14, controlled by the rod 15, for closing said pipe 13 and opening into the horizontal portion of the air-pipe 7, which extends between the gas holder and generator parallel to the gas-pipe 13 and is connected with it through the casing of the valve 14. Said valve-rod 15 is actuated when the lid 16 is removed for the purpose of charging the carbid-holder.

17 is a water-pipe from any suitable source, that supplies water to the generators for the combustion of the carbid. It is provided with a valve 18, having a suitable operating double lever 19, that is engaged by a pinion on the rod 20, which is vertically reciprocated by the gas-holder 3 and the guide-tube 33. In this manner the supply of water to the carbid is regulated in amount.

When the carbid in one of the generators is consumed, the overflow water runs down through the pipe 13 and the lower end of the pipe 4 into the water or condensing chamber 5. The overflow-pipe 21 leads from the upper part of the water-chamber 5.

The parts of the apparatus above described are old and constitute no part of my invention. My invention herein is applied to it for the sake of illustrating the nature of the



invention. Turning now to the new feature of the apparatus, a plurality of generators is provided herein, two being shown and the parts connected with them duplicated. The  
 5 water-supply pipe 17 is provided with a branch for each generator. There are two of these branches herein shown, 22 and 23. The first portion of said pipes 22 and 23 are horizontal to carry them over into position for the re-  
 10 spective generators. At the junction of the pipes 22 and 23 with the main supply-pipe 17 there is a three-way valve 24, that is operated by a double lever 25.

I have secured a bracket 26 on the end of  
 15 the pipe 23, that carries the stationary pulley 27. On the end of said bracket a cable 28 is secured that extends down about pulley 29, that carries the hook 30, on which a bucket or other vessel 31 is placed. The cable 28 ex-  
 20 tends back over the pulley 29 to one end of the lever 25, which actuates the three-way valve 24. The actuation of the three-way valve 24 switches the water-supply to only one of the pipes 22 and 23, as is desired, and  
 25 the actuation of said three-way valve is effected by the weight of overflow on the water-bucket 31 acting through the cable 28 on the valve-lever 25. The water-pipes 32 lead from the outside pipes 22 and 23 into the genera-  
 30 tors up through the carbid-holder in order to discharge water on the carbid, as appears in Fig. 2.

The operation is as follows: Both genera-  
 35 tors are suitably charged with carbid and the valve 24 so set as to direct the water from the pipe 17 into only one of the generators. The cable 28 is then so connected with the valve-lever 25 that when the bucket 31 becomes filled with water or nearly full its weight  
 40 will operate the valve-lever 25, and thus actuate the valve 24, which cuts off the water-supply from the first generator and turns it into the second generator. This operation of the valve 24, however, does not occur un-  
 45 til all the carbid in the first generator has been consumed. Then the flow of water into the carbid-holder in the first generator overflows through the pipe 13 into the water-chamber 5, and from that overflows into the bucket  
 50 31, which when thus weighted actuates said valve. As soon as it is actuated and the water begins to flow in the second generator the formation of gas therein commences.

The cable 28 is attached to either end of  
 55 the lever 25, depending upon the direction that it is desired for the valve 24 to operate, and that is dependent upon the generator into which it is desired to introduce the water. As to this matter the machinery is set  
 60 at the time of charging the carbid-holders.

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

1. In an acetylene-gas apparatus, a plural-  
 ity of generators provided with suitable car-  
 bid - holders, a water-supply pipe having  
 65 branch pipes to the carbid-holder in each gen-  
 erator, a valve at the junction of such branch  
 pipes, that permits the passage of water  
 through only one at a time, a chamber inde-  
 70 pendent of said generators to receive the wa-  
 ter overflow from the carbid-holders when the  
 carbid therein has been consumed, a vessel  
 into which the water flows from said cham-  
 ber at a point above the water-inlet therein,  
 and means for actuating said valve that is  
 75 operated by said water-overflow vessel.

2. In an acetylene-gas apparatus, a plural-  
 ity of generators provided with suitable car-  
 bid - holders, a water-supply pipe having  
 branch pipes to the carbid-holder in each gen-  
 80 erator, a valve at the junction of such branch  
 pipes that permits the passage of water  
 through only one at a time, a chamber inde-  
 pendent of said generators, a pipe leading  
 from each carbid-holder and extending into  
 85 said chamber for conveying the water over-  
 flow from the carbid-holders when the carbid  
 therein has been consumed, means for actu-  
 ating said valve, a cable connected with said  
 valve-actuating means, a vessel carried by  
 90 said cable, and an outlet from said water-  
 overflow chamber at a point above the outlet  
 end of the pipe leading from the carbid-hold-  
 ers for conveying the water into said vessel  
 to weight it and actuate said valve. 95

3. In an acetylene-gas apparatus, a main  
 tank having a gas-reservoir in the upper end  
 and a water-chamber in the lower end, a plu-  
 rality of generators with a carbid-holder in  
 each, a water-overflow pipe leading from each  
 100 carbid-holder to said water-tank, a water-sup-  
 ply pipe with branches leading to the carbid-  
 holders, a valve at the junction of such branch  
 pipes that permits the passage of water  
 through only one branch pipe at a time, a lever  
 105 connected with said valve for operating  
 it, a cable connected with said lever, a vessel  
 supported by said cable, and means for con-  
 veying water from said water-tank into said  
 vessel whereby the increased weight of said  
 110 vessel will through said valve-lever actuate  
 said valve and switch the water-supply to an-  
 other carbid-holder.

In witness whereof I have hereunto affixed  
 my signature in the presence of the witnesses  
 115 herein named.

THOMAS F. O'HERRON.

Witnesses:

ROLLIN BRANHAM,  
 KENNETH D. BANKS.