

(No Model.)

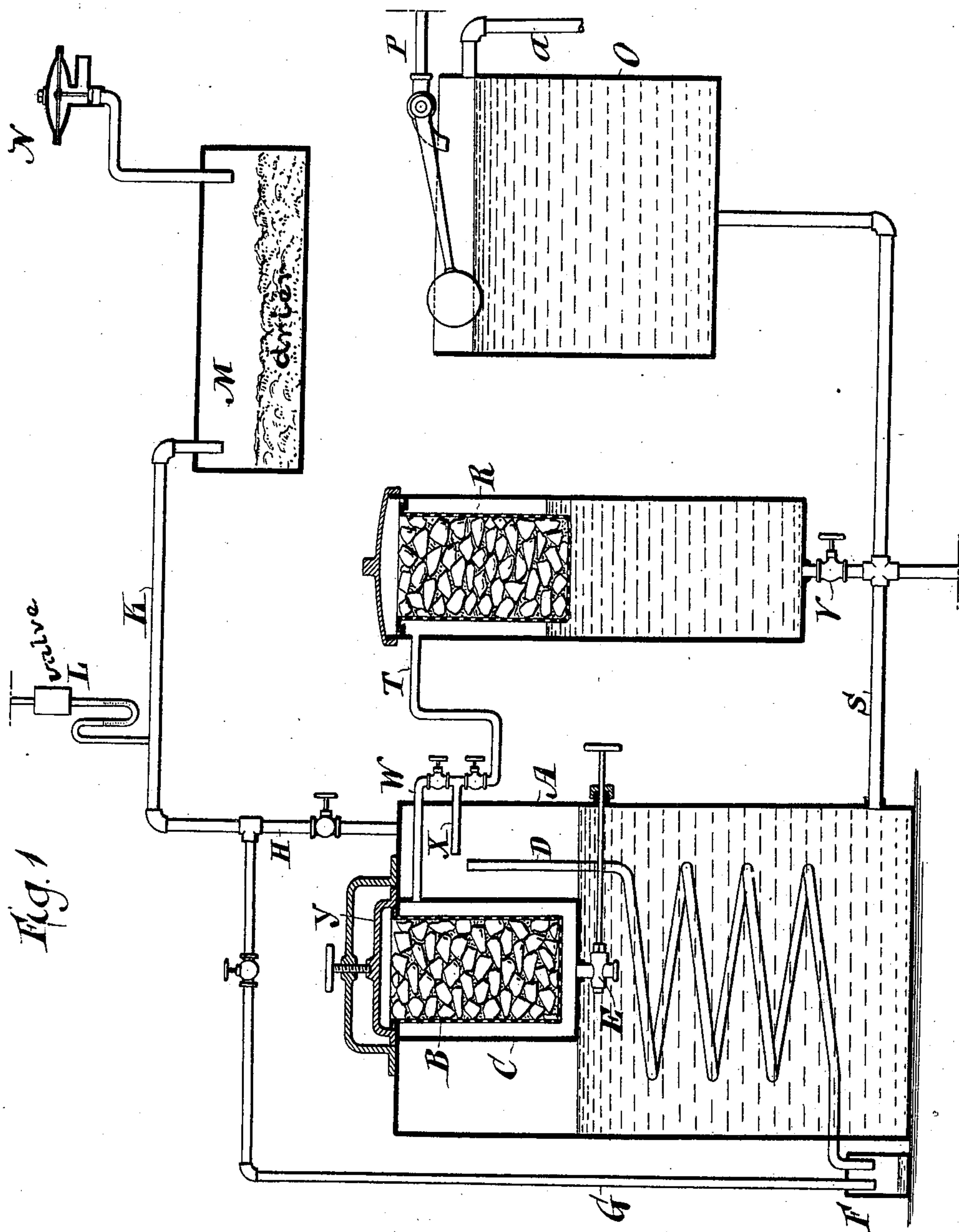
2 Sheets—Sheet 1.

J. A. VINCENT.

APPARATUS FOR GENERATING ACETYLENE GAS.

No. 602,189.

Patented Apr. 12, 1898.



Witnesses.

Geo Wadman
H. Coutant.

Inventor.

Joseph A. Vincent
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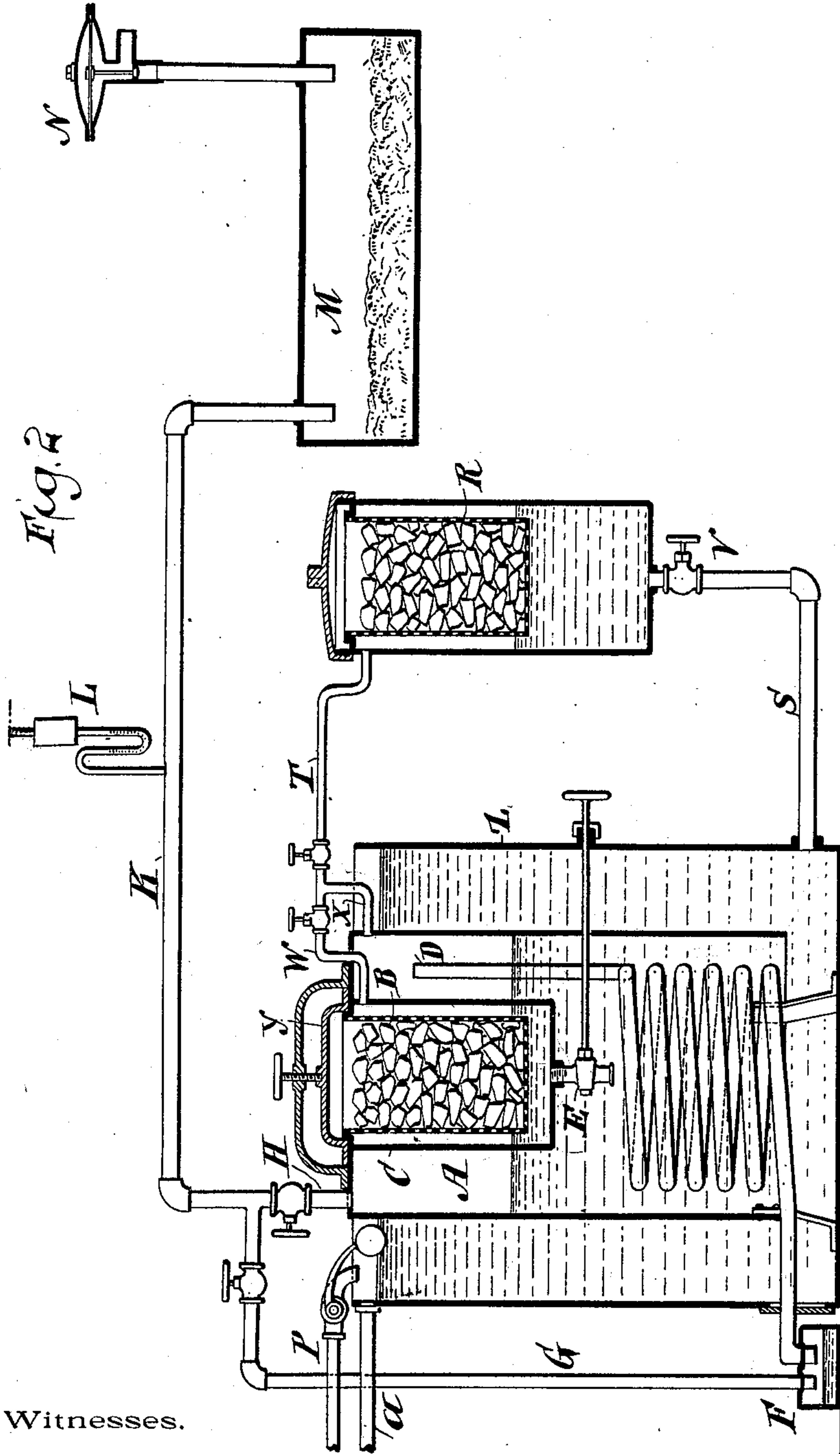
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by E. N. Dickerson

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UNITED STATES PATENT OFFICE.

JOSEPH A. VINCENT, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
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APPARATUS FOR GENERATING ACETYLENE GAS.

SPECIFICATION forming part of Letters Patent No. 602,189, dated April 12, 1898.

Application filed March 30, 1896. Serial No. 585,348. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. VINCENT, of the city and county of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in Apparatus for Generating Acetylene Gas, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

10 This invention relates to an improved apparatus for generating acetylene or a similar gas produced by the union of a liquid and a solid; and it consists in a combination apparatus, by means of which the liquid is at times brought in contact with the material to be treated, while at other times the pressure of the gas causes the liquid to be depressed, the supply of liquid being maintained constant by an exterior source of supply.

15 My invention will be readily understood from the accompanying drawings, which are generally vertical sections of my apparatus, in which—

Figure 1 represents the simplest form of my apparatus, and Fig. 2 a modification.

25 A represents the generator, into which a basket of carbid B is introduced from above, as shown. The carbid may be retained in a perforated receiver made of metal or equivalent support. As shown, it rests upon the top of the generator by flanges. A tightly-fitting cover Y is clamped upon the top of the basket by a suitable pressure-screw. The basket B is surrounded by the closed receiver C, the lower end of which is provided with an opening closed by a stop-cock E, preferably from the outside of the apparatus. In ordinary operation this stop-cock is open.

35 The gas-receiving chamber or generator A surrounds the vessel C, as shown, and is open at the bottom, as shown in Fig. 2, being itself inclosed by an external vessel Z, in which water is supplied by the automatic supply P.

40 In the form shown in Fig. 1 the external vessel Z is omitted and the water is supplied by pipe S from reservoir O, in which is to be found an automatic supply P.

45 Within the generator A is placed the condensing-coil D, the lower end of which passes outside of the apparatus and delivers into the drip-receptacle F, which again communicates

by pipe G with pipe K. Pipe K also communicates with the generator A by pipe H. The various pipes are provided with valves, as shown, and which do not require special description. The pipe K may be provided with pressure-escape L and itself passes to the drying-box M and thence to the pressure-regulator N. An auxiliary supply, to be used while the generator A is being charged, is shown at R, which consists generally of a water-receptacle in which a basket of carbid, similar to that in generator A, is arranged. The said generating-vessel R communicates by pipe V to pipe S, and so to the bottom of the generator A, and by pipe T and connection X to the top of the generating-chamber A, or by pipe W to the interior of the chamber C.

55 The operation can now be readily understood. The basket B is charged, placed in the apparatus, and the cover closed. At this time the chamber C is empty of water and the valve E closed. Then the valve or cock E being opened the higher water-level in reservoir O or in the exterior chamber Z causes the internal water to rise, as shown in the drawings, and to attack the carbid. The gas so produced escapes by pipe W and pipe X to the upper part of the chamber A. As the gas-pressure increases the water in the vessel A is forced downward and returns to the water-supply vessel O or the exterior vessel Z, whence it may escape by pipe *a* in case of excessive height. The gas passes from the upper part of chamber A through condenser D, thence through pipe G and pipe K to drier M and regulator N. In case it is not desired to use the condensing-coil the valve in pipe H is opened and the valve in pipe G is closed, the operation being otherwise as before. When it is desired to recharge the apparatus, the cock E is closed, the cock in valve V is opened, the generator R being supposed to be recharged, water rises within it, and the valve in pipe W being closed and the valve in pipe T being opened the operation continues as before. The supplementary generator R is intended only to be used during the period of filling the main generator A. Though I have shown the relief-valve L and the drier M, they may be dispensed with, if desired.

It is obvious that when the carbid is exhausted or converted into lime the cover Y is removed and the basket emptied, recharged, and again placed in position.

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

1. The combination with the water-tank A having gas-outlet pipe of a carbid-receptacle B located in a vessel C in the upper part of
10 the vessel A, the vessel C, which vessel C has a communication provided with a valve E with the lower part of the tank A, a second generator R having a carbid-receptacle in its upper part which communicates with the
15 lower part of said receptacle R, the said carbid-receptacles B and R being at substantially the same height, the automatic water-supply O communicating with both generators and located at a height above the bottom
20 of the said generators, and connections between the generators provided with valves, substantially as described.

2. The combination in a gas-generator of the water-tank A, having the internal recep-

tacle C, permanently placed in its upper por- 25
tion and above the water-level when the water is depressed, and having cock E and removable cover Y, substantially as described.

3. The combination in a gas-generator of the water-tank A, having the internal recep- 30
tacle C, permanently placed in its upper portion and above the water-level when the water is depressed, and having cock E and the water-supply P, substantially as described.

4. The combination in a gas-generator of 35
the water-tank A, having carbid-receptacle B and inclosing chamber C, permanently placed in its upper portion and above the water-level when the water is depressed, and having the valve E and the condenser placed 40
in the chamber A, substantially as described.

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

JOSEPH A. VINCENT.

Witnesses:

EDW. C. NAPHEYS,
ARTHUR W. TOBEY.