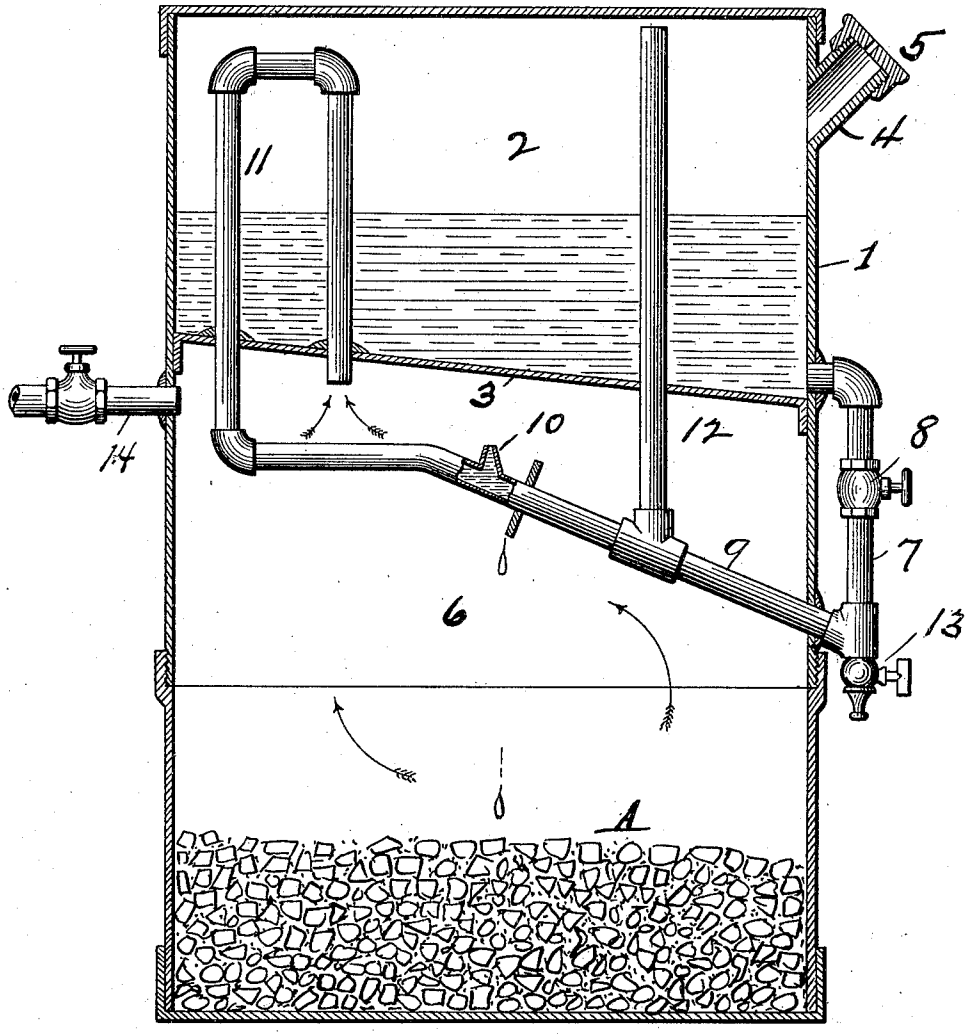
No. 676,791. Patented June 18, 1901.

A. C. EINSTEIN.

ACETYLENE GAS GENERATOR.

(Application filed Sept. 10, 1900.)

(No Model.)



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UNITED STATES PATENT OFFICE.

ALFRED C. EINSTEIN, OF ST. LOUIS, MISSOURI.

ACETYLENE-GAS GENERATOR.

SPECIFICATION forming part of Letters Patent No. 676,791, dated June 18, 1901.

Application filed September 10, 1900. Serial No. 29,534. (No model.)

To all whom it may concern:

Be it known that I, ALFRED C. EINSTEIN, a citizen of the United States, residing in the city of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Acetylene-Gas Generators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification.

My present invention relates to generators for producing acetylene gas and is in the nature of an improvement upon the generator shown in Letters Patent of the United States granted to me August 7, 1900, No. 655,300.

The object of the present invention is to provide means whereby the balancing action of the liquid from the feed-tube is rendered more perfect, owing to avoidance of the necessity of returning the liquid through the feed-tube throughout its length to the reservoir.

My invention consists in features of novelty hereinafter fully described, and pointed out in the claim.

The drawing is a view showing the generator-casing in vertical section and the liquid-feed tube, back-pressure pipe, and balancing-pipe in elevation.

1 designates the casing of the generator, which may be of any desirable form or shape. In the upper end of the casing is a liquid-reservoir 2, provided with an inclined bottom 3, and into which liquid may be introduced through an inlet 4, provided with a cap 5.

6 designates the gas-chamber, at the bottom of which the carbid A is placed.

7 designates a liquid-feed tube provided with communication with the interior of the reservoir 2 at the lowermost point thereof, said tube being equipped with a shut-off valve 8. The feed-tube 7 preferably leads from the reservoir 2 at the exterior of the generator in order that the valve 8 may be of convenient access.

Extending from the feed-tube 7 is an uptake 9, that leads upwardly within the generator and is provided with the outlet-nozzle 10. Extending from the location of the nozzle 10 is a horizontal continuation of the uptake, from which the gas-receiving pipe 11 extends upwardly into the liquid-reservoir and then downwardly again to the gas-chamber, where its open end is in communication with said chamber.

The parts thus far described are similar in construction to like parts in my Patent No. 655,300, hereinbefore referred to, and no invention *per se* is herein claimed for them.

12 designates a relief-pipe applied to the uptake 9 and having communication with the interior of said uptake. The relief-pipe extends upwardly into the liquid-reservoir to a point near the top thereof, so that its upper end is located above the liquid-line therein. This relief-pipe constitutes the essential feature of my present invention when taken in connection with the construction embodied in my patent hereinbefore mentioned. In the absence of such relief-pipe the liquid must be forced through the uptake 9 and feed-tube 7 throughout their length, when the gas-pressure operates thereagainst to shut off the discharge of liquid through the nozzle 10. This feature of operation is objectionable by reason of the very considerable force of pressure that is necessary to return the liquid through the total length of the uptake and feed-tube, as a consequence of which the discharge of liquid is not always shut off as quickly as it should be to a satisfactory operation of the generator. Moreover, the feed-tube 7 is commonly filled with a packing to prevent too rapid flow of the liquid therethrough from the reservoir to the uptake, and as a result it is difficult for the gas-pressure to force the liquid back through such packing as quickly as it should to avoid overproduction of gas. By the use of the relief-pipe 12 the liquid in the portion of the uptake 9 between the relief-pipe and the outlet-nozzle is forced by the gas-pressure into said relief-pipe each time that an excess of gas is produced in the generator, the liquid rising readily in said relief-pipe and returning freely therefrom to the uptake and outlet-nozzle immediately upon the excess of gas-pressure being relieved.

13 is a petcock located in the lower end of the feed-tube 7, through which all of the liquid in the reservoir, tubes, and pipes of the generator may be drained from the apparatus.

14 is a valved outlet-pipe leading from the gas-chamber 6, through which the gas is conveyed to the point of consumption.

I claim as my invention—

In a gas-generator, the combination of a casing, a liquid-reservoir, a liquid-feed tube leading from said reservoir, an uptake forming a part of said feed-tube, an outlet-nozzle carried by said uptake, and a relief-pipe having communication with the interior of said uptake, substantially as described.

ALFRED C. EINSTEIN.

In presence of—
E. S. KNIGHT,
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