

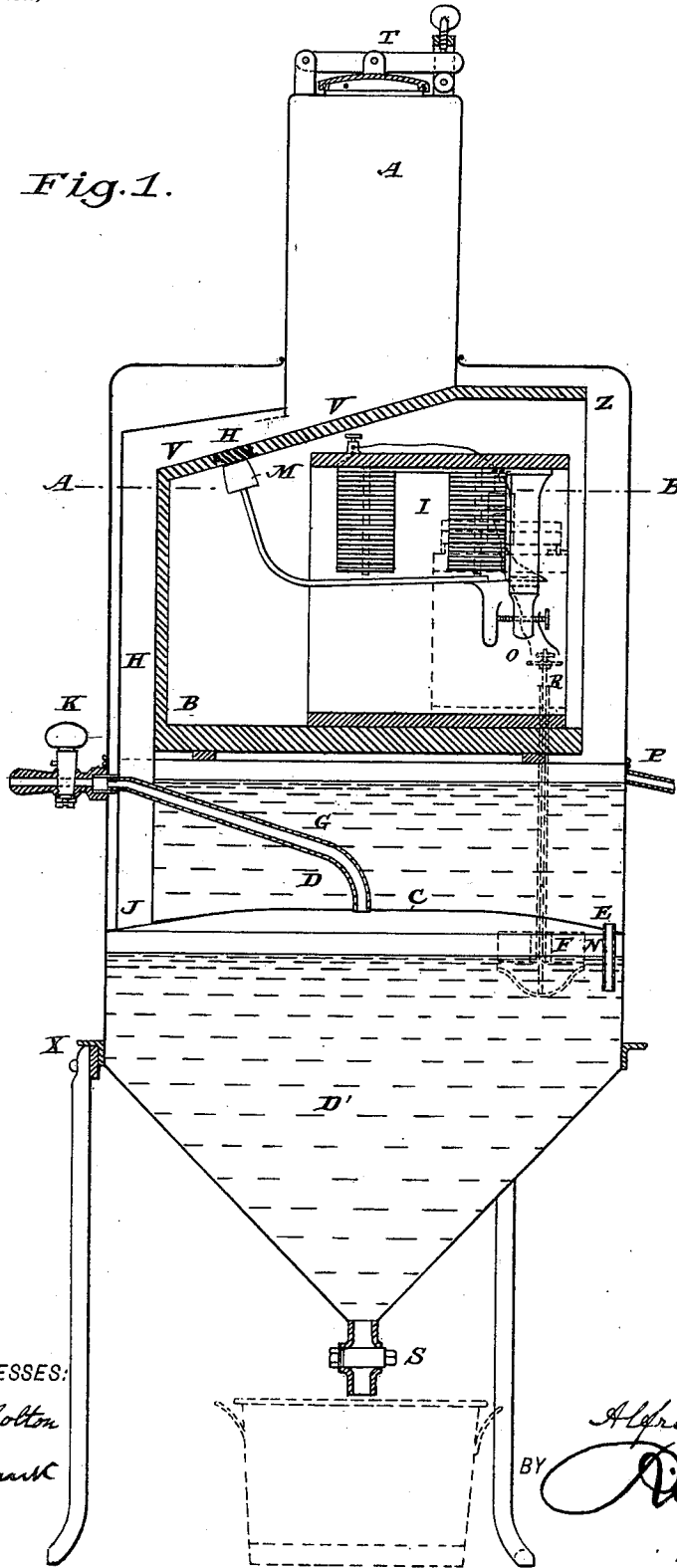
A. MOLET.
ACETYLENE GAS GENERATOR.

(Application filed Jan. 14, 1898.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



WITNESSES:
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INVENTOR
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 BY *[Signature]*
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No. 632,193.

Patented Aug. 29, 1899.

A. MOLET.
ACETYLENE GAS GENERATOR.

(Application filed Jan. 14, 1898.)

(No Model.)

2 Sheets—Sheet 2.

Fig. 2.

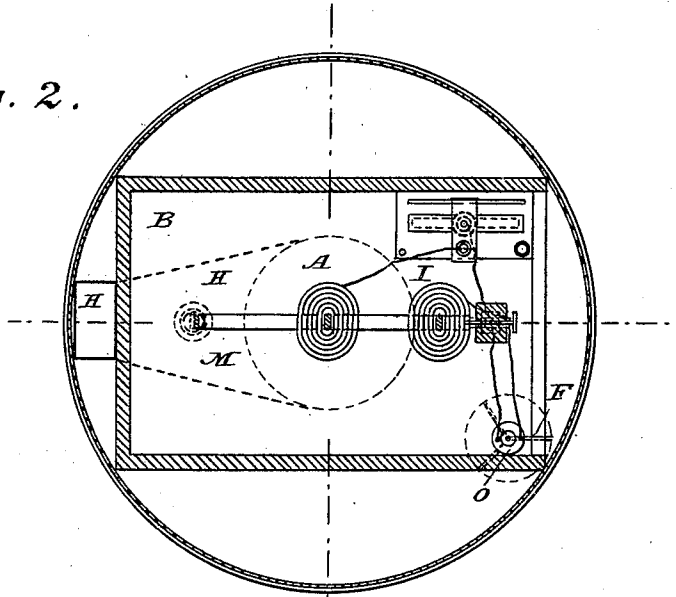
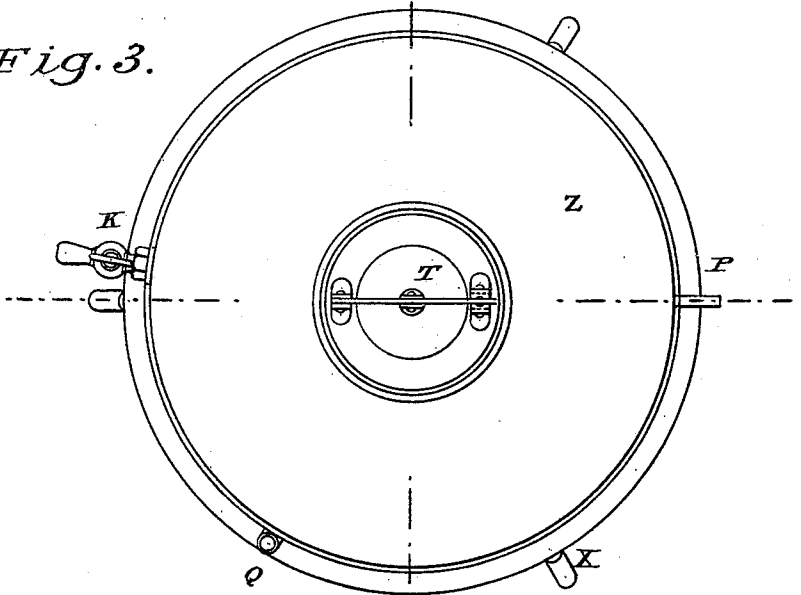


Fig. 3.



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UNITED STATES PATENT OFFICE.

ALFRED MOLET, OF BUENOS AYRES, ARGENTINA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO J. CLARK CURTIN, OF NEW YORK, N. Y.

ACETYLENE-GAS GENERATOR.

SPECIFICATION forming part of Letters Patent No. 632,193, dated August 29, 1899.

Application filed January 14, 1898. Serial No. 666,736. (No model.)

To all whom it may concern:

Be it known that I, ALFRED MOLET, a citizen of the Republic of France, residing at the city of Buenos Ayres, Argentina, have invented a new and useful Acetylene-Gas Apparatus, (for which I have obtained patents in Austria, Vol. 48, page 115, dated January 2, 1898; in Belgium, No. 131,134, dated October 30, 1897; in France, No. 271,212, dated January 27, 1898; in Great Britain, No. 23,198, dated October 9, 1897; in Italy, No. 46,003, dated November 8, 1897; in Switzerland, No. 15,341, dated October 12, 1897, and in Spain, No. 21,574, dated November 19, 1897,) of which the following is a full, clear, and exact specification.

The apparatus heretofore employed to obtain acetylene gas by means of calcium carbide may be divided into two classes—viz., first, apparatus in which the calcium carbide is in contact with water, and, second, apparatus in which the calcium carbide falls into the water. Those of the first class being the more readily and easily constructed have heretofore constituted the larger part of the apparatus invented. This class, however, present great disadvantages from which those of the second class are free. The apparatus of the second class in use hitherto are very few, the irregular form of the carbide hardly adapting itself to automatic operation; but it is known that there are some which are giving good results.

In the apparatus heretofore used and referred to above a special previous manipulation of the carbide is necessary—its pulverization, its saturation with petroleum, and the previous charging of a series of cells. Besides, these charges, however small they may be, always demand that the gas-generator should be used, together with a gas-holder capable of containing a considerable amount of gas. I have succeeded in overcoming by means of my apparatus all these difficulties and deficiencies, my improved apparatus being of the second class—namely, that in which the carbide falls into the water—and possesses all the advantages of this kind of apparatus. In addition to this it has no gas-holder, it is small and occupies an insignificant space, the distribution of the carbide is made auto-

matically and gradually as the consumption takes place, and the only necessary manipulation to which the carbide must be subjected is to crush it into pieces weighing not more than ten or twelve grams, or nearly the size of a hazelnut. The charge is made by filling the upper reservoir, without being necessary to divide it previously. Besides these advantages there are many others—as, for instance, the facility of cleaning the lime residue and the almost complete absence of any mechanism. Finally, the manipulation is so extremely simple that the apparatus may be intrusted to any person without danger of any kind. In this apparatus the fall of the calcium carbide in a quantity of water and in small fractions at the same time is automatically secured.

In the drawings, Figure 1 is a vertical section of the apparatus, and Fig. 2 is a horizontal section on line A B of Fig. 1. Fig. 3 is a plan view of Fig. 1.

The carbide, previously divided in fragments, is introduced by means of an air-tight cover T in a box A. This box communicates in its lower portion with a conduit or channel H H'. This conduit is connected at J with a plate C, adapted to divide horizontally the water-reservoir D D' into two parts, which communicate with each other by means of the pipe E.

The bottom V of the box A, forming an integral part of the conduit H, is slightly inclined, and the angle of this inclination is such as to prevent the carbide in the box A from falling by itself; but it is sufficient to provoke the fall when a series of vibrations are communicated to the bottom V. These vibrations are easily secured by means of the hammer M, to which, either by means of a mechanism or by electricity, motion is communicated whenever it is necessary to provoke the fall of the carbide.

At the beginning of the operation the water-reservoir D D' is filled with water. In falling into the water the carbide is decomposed into lime, which goes to the bottom, and into acetylene gas, which is stored under pressure under the plate C, displacing its own volume of water, which passes to the upper part D of the reservoir through the pipe or channel E. The movement of the water is produced in a

reverse direction whenever the amount of gas diminishes. The gas produced is then directed toward the outside through the conduit G, provided with the cock K.

5 In order to automatically regulate the reciprocity of motion and of immobility of the hammer M, a float F is arranged, which ends in a rod R, which passes freely in a small pipe. The float accurately accompanies all
10 the changes of the level of water in the portion D' of the reservoir.

When the electric hammer is employed, as indicated in the drawings, the rod R is provided with a contact O, which cuts off or re-
15 establishes the electrical current which goes from the battery to the electrode l. When the mechanical movement is employed, the said rod will operate a check or click.

It is evident that however little the amount
20 of gas stored may be increased the level N will descend, as well as the float, and thereupon the interruption of the movement of the hammer is effected. On the other hand, whenever by the mere fact of the consumption of
25 the gas the volume of the same is reduced the float will rise with the level, thus reestablishing the movement of the hammer.

The formation of the lime residue of the carbid tends to increase the volume of the
30 water contained in D D', and the discharge-pipe P permits the exit of this excess of water. It will be understood that the pressure of the gas will depend upon the height at which this discharge-pipe may be placed.

35 The exit or discharge of the lime - milk stored at the bottom of D' is effected by a cock or valve placed at S.

The free space that remains between A and D is utilized to place the hammer and its
40 mechanism in a box, which may be of wood, as shown in the drawings, and the bottom of which rests on the edge of the reservoir D.

The whole apparatus rests on a tripod X.

45 At Z a cylindrical jacket has been arranged which is adapted simply to protect the movement.

For the construction of the apparatus any kind of metallic plates may be employed; but naturally the metal which is less liable to be

decomposed by oxidation and by combination 50 with the acetylene gas should be preferred.

Having thus described my invention, what I claim is—

1. In a gas-generator, the combination with a carbid-receptacle and a generating-chamber, of a conduit connecting the two, of an inclined delivery-plate, forming part of this conduit and adapted to receive carbid from said receptacle at all times, and of means for causing the gradual sliding off of carbid down
55 said incline into said generating-chamber as the consumption of gas takes place.

2. In a gas-generator, the combination with a carbid-receptacle and a generating-chamber, of a water-chamber located above said
65 generating-chamber, of a dividing-diaphragm between said generating-chamber and said water-chamber, of means for causing the sliding off of the carbid down an incline into said generating-chamber, and of a controlling-
70 float in said generating-chamber for said means.

3. In a gas-generator, the combination with a carbid-receptacle and a generating-chamber, of a conduit connecting the two, of an incline forming part of said conduit, of a water-chamber above said generating-chamber, of a dividing-diaphragm between the same, of a port adapted to pass water from said generating-chamber into said water-chamber, and
75 of means for causing the carbid to automatically slide down said incline into said generating-chamber.

4. In a gas-generator, the combination with a carbid-receptacle and a generating-chamber, of a conduit, and of a carbid-feed consisting of an inclined delivery-plate forming part of said conduit and adapted to automatically vibrate and of means controlled by the gas volume in said generating-chamber to
85 cause said vibration.

In witness whereof I have hereunto set my hand in presence of two witnesses.

ALFRED MOLET.

Witnesses:

T. A. LE BRETON,

I. E. WELLS.