W. H. PARKER.

ACETYLENE GAS GENERATOR.

APPLICATION FILED AUG. 26, 1908.

975,154.

Patented Nov. 8, 1910.

FIG. 3.

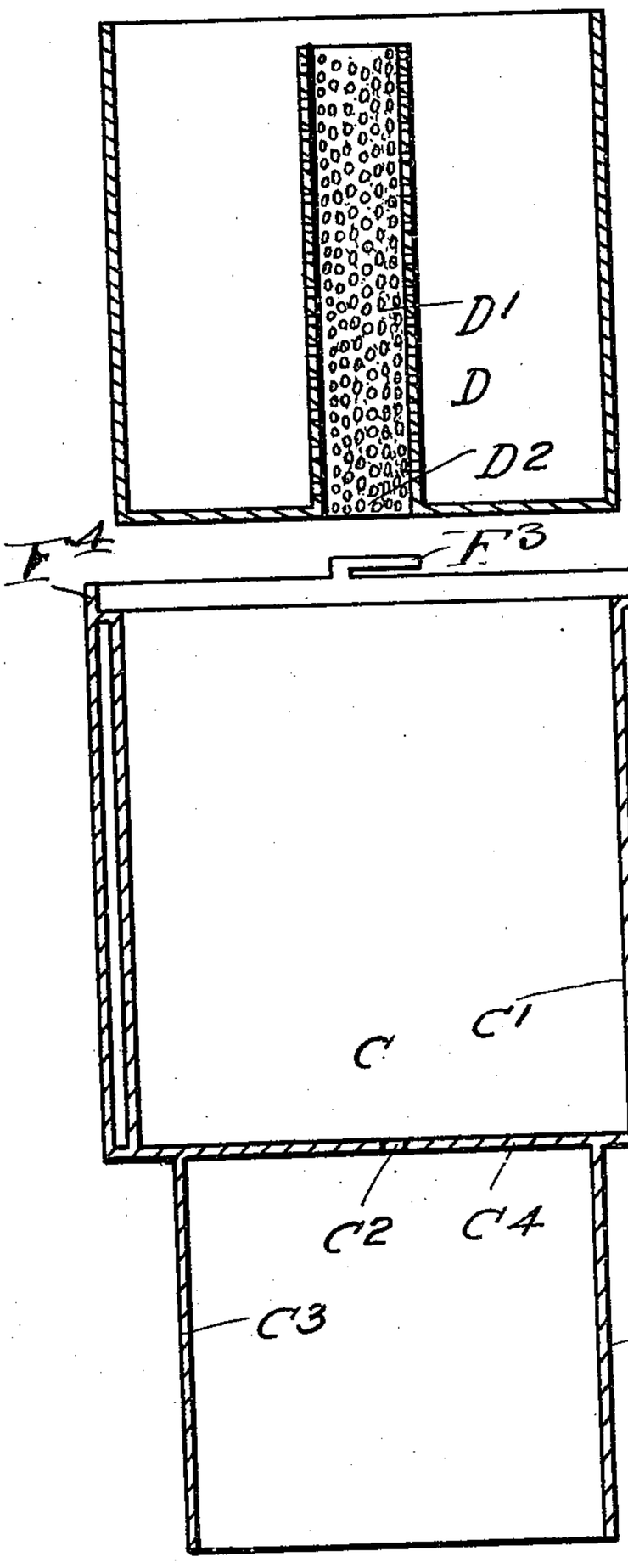

FIG. 2.

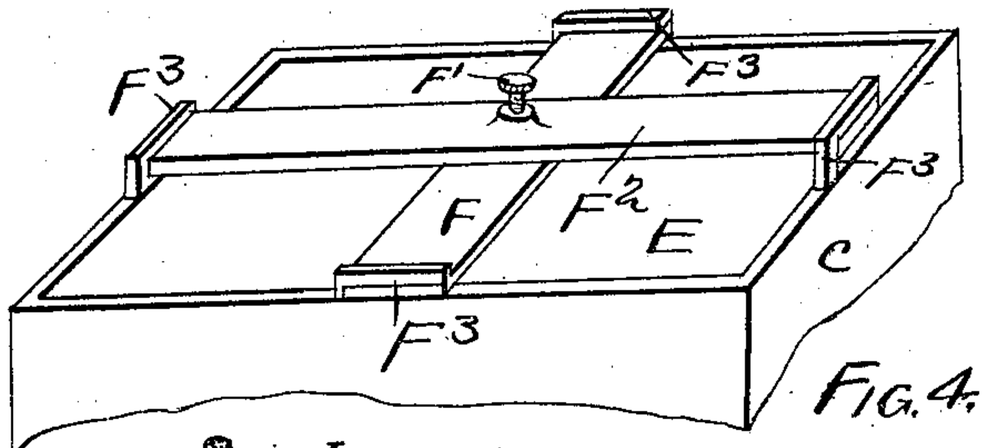

FIG. 4.

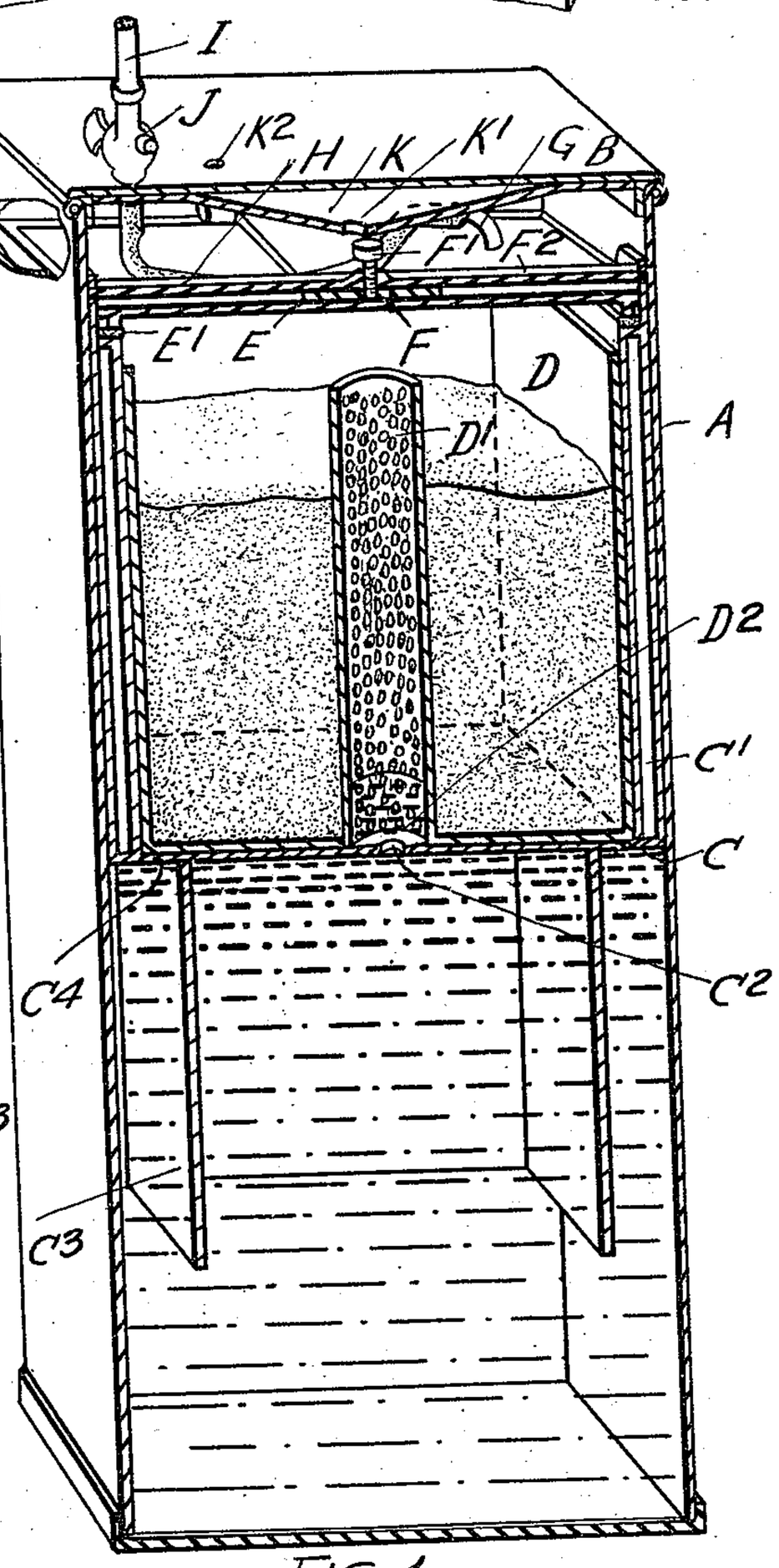

FIG. 1.

Witnesses

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UNITED STATES PATENT OFFICE.

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ACETYLENE-GAS GENERATOR.

975,154. Specification of Letters Patent. Patented Nov. 8, 1910.

Application filed August 26, 1908. Serial No. 450,394.

To all whom it may concern:

Be it known that I, WILLIAM HARTLEDGE PARKER, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Acetylene-Gas Generators, of which the following is the specification.

My invention relates to improvements in acetylene gas generators and the object of the invention is to devise a simple generator particularly adapted for automobiles in which generation will only take place in practically the exact proportion to the amount of gas consumed.

A further object is to insure of a full steady light and an immediate cessation of generation as soon as the stop cock is shut off.

My invention consists of an outer casing, a float contained therein and provided with walls depending downwardly from the bottom of the float, a carbid receptacle fitting into the float and having preferably a central perforated bottomless tube, a top for the float suitably held in position and having a tube extending therefrom preferably flexible for the most part, a suitable top for the receptacle to the service pipe of which the tube is connected, the service pipe being provided with a stop cock and the parts being otherwise arranged and constructed in detail as hereinafter more particularly explained.

Figure 1, is a sectional perspective view of my improved acetylene gas generator. Fig. 2, is a vertical section of the float. Fig. 3, is a vertical section of the carbid receptacle. Fig. 4 is a detail view showing the fastening means for the top of the float.

In the drawings like letters of reference indicate corresponding parts in each figure.

A is the main or outer casing and B is the removable top thereof.

C is a float having a chambered or double wall C′ and an orifice C^2 in the bottom thereof and depending walls C^3 located preferably within the double walls C′ but below the bottom C^4. The outside of the chambered wall fits the wall of the receptacle of the casing loosely or easy and will allow of the escape of gas or passage of water between the wall of the casing and the aforesaid double wall.

D is a carbid chamber, which fits the inner wall of the chambered wall C snugly and yet easy enough, so that it may move freely up and down therein and be readily withdrawn therefrom. The carbid chamber has a perforated central tube D′ extending preferably up to about the top thereof and having an open bottom D^2. A supply of water is placed in the casing, so that it is normally at the level of the height shown in Fig. 1, such water extending through the orifice C^2 and up into the perforated tube D′.

E is the top of the float, which fits upon a gasket E′ resting on the top of the chambered wall C. The gasket may be of rubber or any suitable material and the top E is held thereon by means of a plate F and set screw F′, which extends through a cross bar F^2 held at the ends in hook-shaped ears F^3 attached to or forming part of the upwardly projecting flange F^4 at the top of the double wall.

G is a bent tube extending outwardly from the top E and H is a flexible tube extending from the tube G to the service pipe I extending through the top B and provided with a stop cock J.

K is a deflecting plate secured underneath the top B and having a downward incline toward the center where it is provided with an orifice K′.

K^2 is an orifice located in the top toward the edge of the deflecting plate where it is near to but inside of where the plate is fastened to the top B.

Having now described the principal parts involved in my invention I shall briefly describe its operation and utility.

When it is desired to generate gas the stop cock J is turned on and the water passes up through the orifice C^2 and through the perforations of the tube D′, so as to permeate the bottom of the carbid, thereby producing gas, which passes upwardly through the carbid and pipe G and tube H and service pipe I. The gas as it passes up through the carbid is to a more or less extent purified but I preferably provide a separate purifier, which it is not necessary here to describe. As soon as it is desired to stop the generation of gas the stop cock J is turned off and the gas then generating forces down the water in the tube D′ and underneath the carbid holder D through the orifice C^2 and thereby below the level of the carbid chamber and thus it will be seen that no more gas will be generated. Should over generation take place when the stop cock is shut off the water will be forced farther downwardly and upwardly around the sides of

the float. Should it be forced so far downwardly that the gas will pass below the level of the walls C^3, such gas would then pass upwardly around the outside of the walls C^3 and between the double wall C and the wall of the casing, thence upwardly through the orifice K′ and orifice K^2. It will thus be seen that I have effectually provided for any danger from over generation of gas, which I find in practice, however, is practically impossible in my form of generator. Any slopping over is absolutely provided against by means of the deflecting plate K as the orifice K′ of the same is in the center and the orifice K^2 in the top is near the edge of the deflecting plate and consequently no slopping is likely to take place. The carbid as it is being acted upon by the water is gradually converted to slaked lime from bottom to top.

When it is desired to remove the carbid holder after the carbid is used up all it is necessary to do is to unscrew the stop cock J and the service pipe when the top B may be raised. The set screw F′ may also be loosened, so as to relieve the pressure of the plate F upon the top E, whereupon the bar F^2 may be swung from underneath the hook-shaped ears F^3 and the top may be readily removed. The carbid holder may then also be readily drawn out and emptied and then refilled again and the parts placed into the position shown in the drawing ready for the generation.

In generating the gas from the carbid the slaked lime, which gradually creeps up the carbid holder is in a dry pulverized state resulting, as I believe, from the heat generated when setting the gas free.

What I claim as my invention is:

1. The combination with the main casing adapted to contain water, of a float having the wall thereof corresponding in form to the wall of the casing and provided with a closed bottom having central orifice and a carbid chamber fitting the walls of the float and provided with a central perforated tube extending upwardly from the bottom of the chamber as and for the purpose specified.

2. The combination with the main casing adapted to contain water, of a float having the wall thereof corresponding in form to the wall of the casing and provided with a closed bottom having orifice and a carbid chamber fitting the walls of the float and provided with a perforated tube extending upwardly from the bottom of the chamber and a suitable inclosing top for the top of the float and a service pipe leading therefrom as and for the purpose specified.

3. The combination with the main casing adapted to contain water, of a float having the wall thereof corresponding in form to the wall of the casing and provided with a closed bottom having orifice and a carbid chamber fitting the walls of the float and provided with a perforated tube and a suitable inclosing top for the top of the float, a pipe leading therethrough and a flexible pipe connecting the aforesaid pipe with the service pipe as and for the purpose specified.

4. The combination with the main casing adapted to contain water, of a float located therein and having a closed bottom provided with an orifice, and a carbid chamber located in the float and provided with a bottomless perforated tube extending upwardly from the bottom of the chamber as and for the purpose specified.

5. An acetylene gas generator comprising a casing adapted to contain water, a float in said casing provided with a closed bottom having a perforation and a removable closure at the top of the full diameter of the float, a removable carbid receptacle having an open top located in the float and provided with an orifice at the bottom, the said float having a downwardly extending wall surrounding the orifice in the bottom thereof, whereby the excess of gas generated lifts the float in the water and is stored in the chamber within the downwardly extending walls as specified.

6. In an acetylene gas generator, the combination with the float having a bottom provided with a perforation and a carbid receptacle having a bottomless perforated tube extending from the bottom thereof and located within the float, of a top for the float and means for securing the top so as to hermetically seal the float as and for the purpose specified.

7. In an acetylene gas generator, the combination with the float having a bottom perforation and hook-shaped ears at the top and a carbid receptacle having a bottomless perforated tube extending from the bottom thereof, of a top for the float, a bar extending under the hook-shaped ears and a set screw and plate centrally disposed in the bar as and for the purpose specified.

8. The combination with the casing and float and carbid holder located in the float, of a top for the casing provided with a central deflecting plate having a downward incline from the edge to the center and provided with a central orifice, the said top having an orifice diametrically within the edge of the deflecting plate as and for the purpose specified.

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Witnesses:
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