

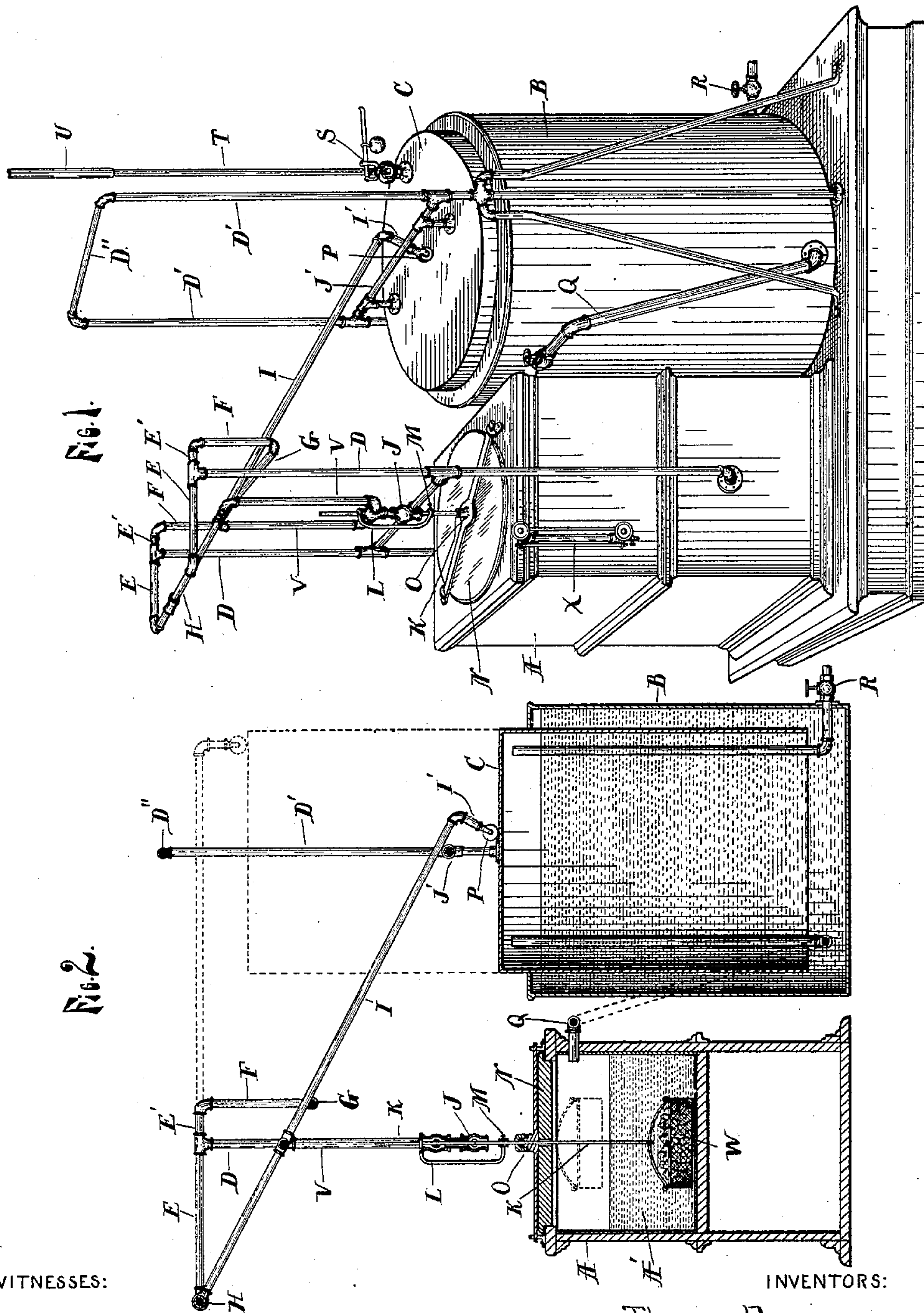
No. 613,790.

Patented Nov. 8, 1898.

T. BEUCUS & L. BLACK.
ACETYLENE GAS GENERATOR.

(Application filed Sept. 7, 1897.)

(No Model.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

THOMAS BEUCUS AND LEE BLACK, OF CEDAR SPRINGS, MICHIGAN; SAID
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ACETYLENE-GAS GENERATOR.

SPECIFICATION forming part of Letters Patent No. 613,790, dated November 8, 1898.

Application filed September 7, 1897. Serial No. 650,747. (No model.)

To all whom it may concern:

Be it known that we, THOMAS BEUCUS and LEE BLACK, citizens of the United States, residing at Cedar Springs, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Acetylene-Gas Generators; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to improvements in generators for acetylene gas; and its object is to provide the same with certain new and useful features hereinafter more fully described, and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective of a device embodying our invention, and Fig. 2 a central vertical section of the same.

Like letters refer to like parts in both of the figures.

A represents any suitable case, having a water-tank A' in its upper part and a large opening in the top closed by a suitable cover N, made gas-tight and secured by any suitable means. Within said tank A' is a basket W to receive the carbid and attached to the end of a vertically-movable rod K, which rod passes through a stuffing-box O in the center of the cover N and extends upward through a cross-head J, vertically movable on guides D D, projecting upward at each side of the generator. The rod K is freely movable in the cross-head J, and to lift the same a yoke L is provided, adjustably secured to said rod by the screw M and embracing the cross-head J. Said cross-head is attached to a lever I by connecting-rods pivoted at their respective ends to the same, and said lever is pivoted to a cross-bar H at its forward end and provided with a downwardly-turned lower end I', terminating in a roll P, resting on the top of the gas-receiver C. This lever serves to better overcome the friction of the rod in the stuffing-box and avoids lateral strains on the gas-receiver, which tend to retard its free movement. Said cross-bar is supported by cross-arms E, extending horizontally across the top of the guides D. Depending from oppositely-

projecting arms E' are the drops F, connected by a cross-bar G, which bar engages and limits the lever I in its downward movement as the basket reaches near the bottom of the water-tank A'.

B is a water-tank in which is a vertically-movable gas-receiver C, having attached a cross-head J', movable on vertical guides D' at each side of the tank B and connected at the top by a cross-bar D''. Said receiver is also provided with a safety-valve S, having a discharge-pipe T vertically movable within a larger stationary pipe U to extend outside the building in which the device may be located. A pipe Q leads from above the water in the tank A' through the side of the tank B, near the bottom, and thence upward through the water therein to discharge the gas generated in the tank A' into the receiver C. A pipe R also extends from above the water in the tank B downward and through the side of said tank and near the bottom thereof and thence to any convenient burners.

X is a water-gage to indicate the amount of water in the tank A'.

The calcium carbid is placed in the basket W, and when there is no gas in the receiver C it will descend and permit the lever I to lower the basket into the water, which passes through said basket and contacting the contents thereof sets up the generation of acetylene gas, which flows through the pipe Q into the receiver C and raises the same. This movement raises the basket W out of the water and checks the generation of gas. If by any chance this generation should not altogether cease as the basket is raised out of the water, any excess of gas will be blown off at the valve S and escape by way of the pipes T U.

The pivoted lever, connected to the cross-head by pivoted rods and movably engaging the top of the tank, more effectually overcomes the friction of the stuffing-box on the rod and avoids all lateral strains on the tank and rod which would interfere with their free vertical movement.

Having thus fully described our invention, what we claim, and wish to secure by Letters Patent, is—

1. The combination of a gas-tight water-tank, a gas-receiver, a pipe connecting the

same, a basket in said tank, a rod extending from said basket through the top of the tank; a lever pivoted at one end, and movably engaging the top of the gas-receiver at the other end, and intermediately connected to said rod, substantially as described.

2. The combination of a gas-tight water-tank, a basket in said tank, a rod extending through the top of said tank, a gas-receiver connected to the tank by a pipe; vertical guides on said tank, a lever pivotally supported at one end by said guides and movably engaging said receiver at the other end, a cross-head on said guides, and means for connecting said cross-head to the lever and rod, substantially as described.

3. The combination of a water-tank having a tight cover and stuffing-box, a gas-receiver connected to said tank by a pipe, guides on said tank, arms and a cross-head on said guides, a lever pivotally supported by said arms at one end and movably engaging said receiver at the other end, connecting-rods from said lever to the cross-head, a basket in said tank and a rod extending through the stuffing-box and connecting said basket with the cross-head, substantially as described.

4. The combination of a water-tank having a gas-tight cover having a stuffing-box, guides at each side of said tank, a cross-head traversing said guides, horizontal arms at the top of said guides, a cross-bar connecting said arms, a lever pivoted to said bar, connecting-rods extending from said lever to said cross-head, a rod adjustable in said cross-head and passing through said stuffing-box, a basket on the end of said rod and within the tank, a vertically-movable gas-receiver engaged and traversed by said lever, a pipe connecting said receiver and tank, guides at each side of said receiver and a cross-head attached to the

receiver and traversing said guides, substantially as described.

5. The combination of a water-tank, a basket vertically movable therein, a gas-tight cover to said tank, having a stuffing-box, guides at each side of said tank, a cross-head traversing said guides, a rod attached to the basket and movable in said cross-head and stuffing-box, a yoke embracing said cross-head and adjustably attached to said rod, horizontal arms projecting oppositely from the top of said guides, a cross-bar connecting two of said arms, a lever pivoted to said bar, drops attached to the other two of said arms, a bar connecting said drops and limiting the downward movement of said lever, rods connecting said lever and cross-head, and a vertically-movable gas-receiver engaging and operating said lever, and a pipe connecting said receiver with the tank, substantially as described.

6. The combination of a water-tank, having a tight cover, a vertically-movable basket in said tank, a rod attached to said basket, a pivoted lever attached to said rod, a stop to limit the downward movement of said lever, a roll on the end of said lever, a second and larger water-tank, a vertically-movable gas-receiver in said tank, engaging the roll on the lever and traversed by the same, a safety-valve in said receiver, a telescopic pipe attached to said safety-valve, and a pipe connecting the two water-tanks, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

THOMAS BEUCUS.
LEE BLACK.

Witnesses:

WM. BLACK,
RALPH RONGRITE.