No. 676,691. Patented June 18, 1901.

R. FEDERROLL.

ACETYLENE GAS GENERATOR.

(Application filed Feb. 2, 1901.)

(No Model.) 2 Sheets—Sheet 1.

FIG. 1.

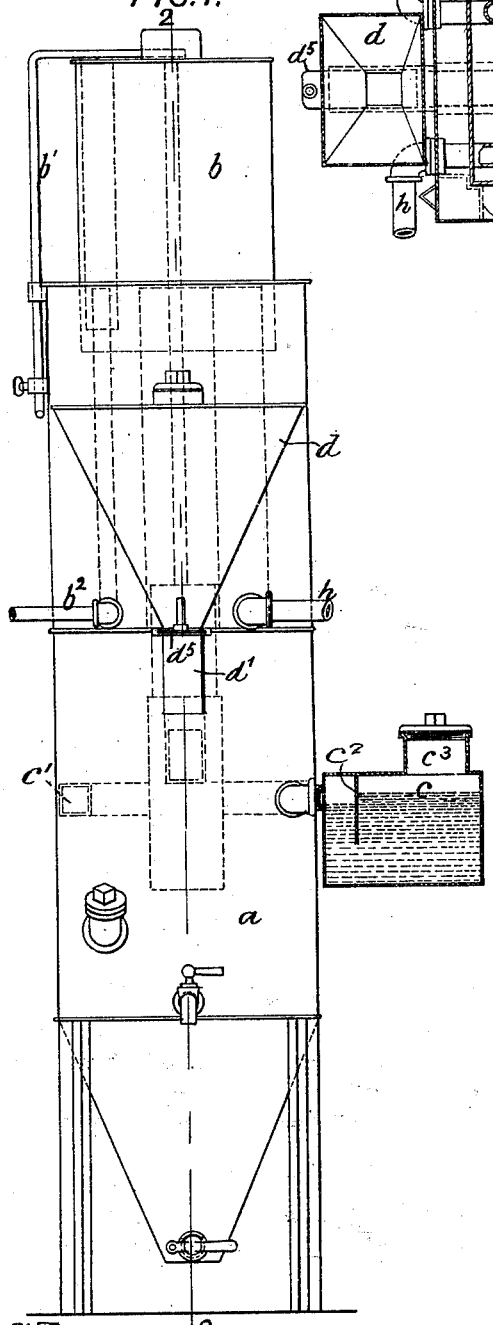


FIG. 3

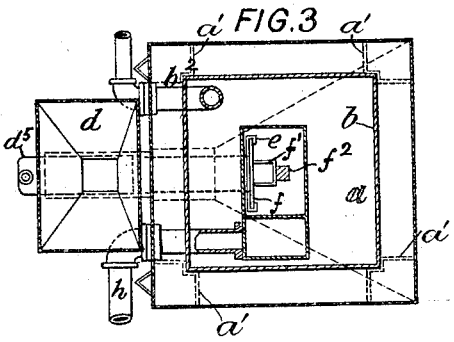
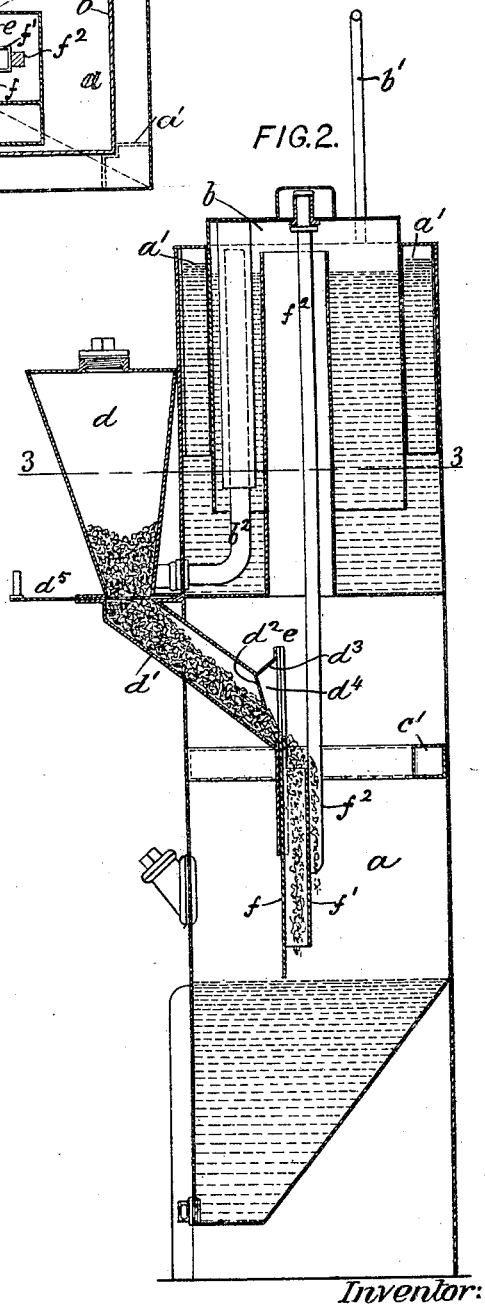


FIG. 2.



Witnesses:
John Becker.
Edward Reuy.

Inventor:
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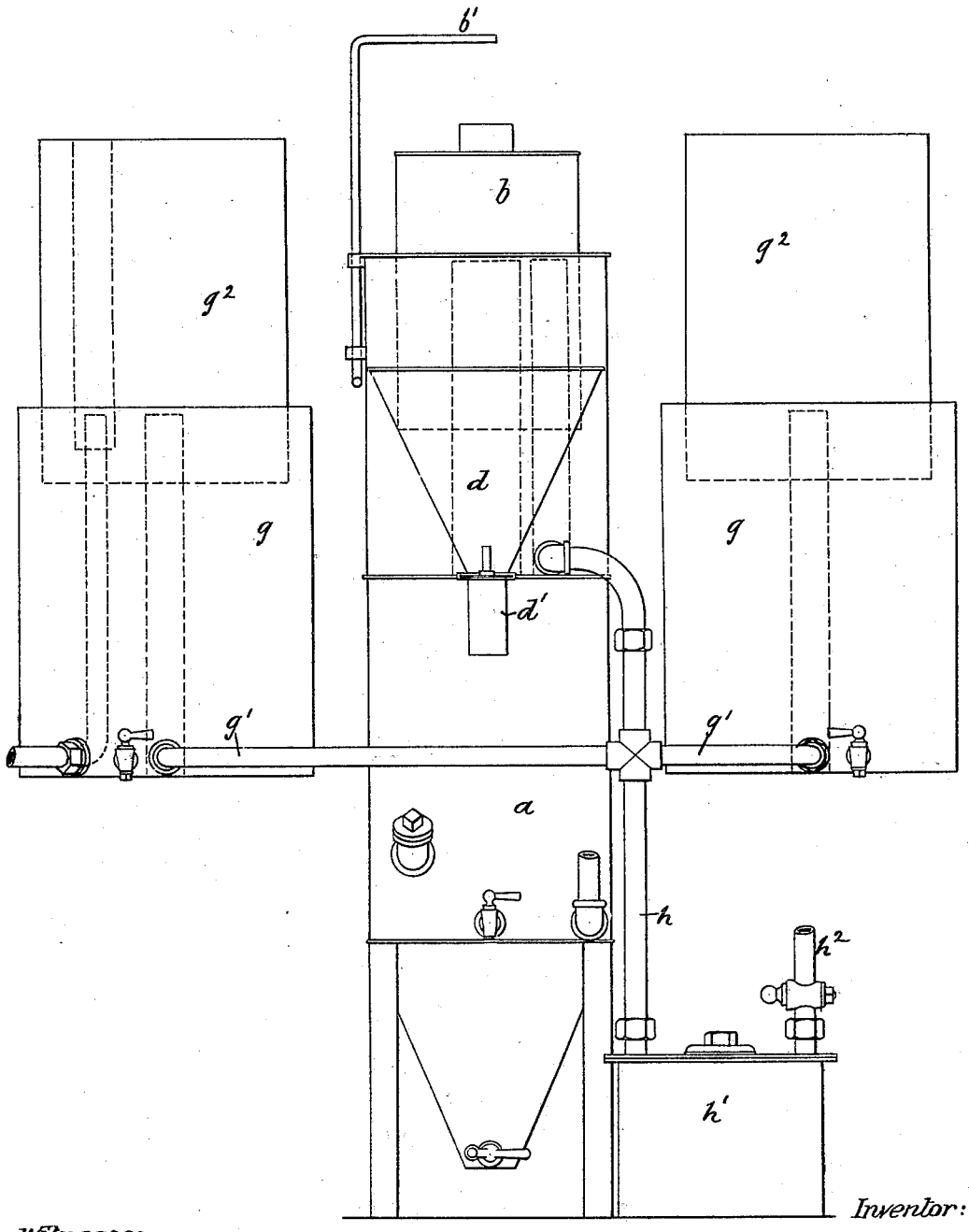
FIG. 4.



Witnesses
John Becker.
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Inventor:
Rudolph Federroll
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UNITED STATES PATENT OFFICE.

RUDOLPH FEDERROLL, OF NEW YORK, N. Y.

ACETYLENE-GAS GENERATOR.

SPECIFICATION forming part of Letters Patent No. 676,691, dated June 18, 1901.

Application filed February 2, 1901. Serial No. 45,681. (No model.)

To all whom it may concern:

Be it known that I, RUDOLPH FEDERROLL, a citizen of the United States, and a resident of New York city, county and State of New York, have invented certain new and useful Improvements in Acetylene-Gas Generators, of which the following is a specification.

This invention relates to an acetylene-gas generator in which the carbid is fed into the water-tank through a sliding gate which is operated by the bell of the generator. In this way the quantity of the carbid discharged into the water is regulated by the pressure within the tank, so that a uniform production of gas is insured.

The invention consists in the various features of construction pointed out in the claims.

In the accompanying drawings, Figure 1 is a front elevation, partly in section, of my improved acetylene-gas generator with some of the parts omitted. Fig. 2 is a vertical section on line 2 2, Fig. 1; Fig. 3, a cross-section on line 3 3, Fig. 2; Fig. 4, an elevation of the generator with the supply water-tank omitted.

The letter a represents the water-tank of a gas-generator, and b is the usual vertically-movable bell entering the same and guided by means of hollow corner-posts a'. Water is admitted to the tank from a vessel c, which conveys the water to the tank by means of a perforated pipe c', arranged around the inner wall of the same. The vessel c is provided with a depending partition c^2, that dips into the water and forms a seal which prevents the escape of gas when the vessel c is replenished through nozzle c^3.

d is the carbid-hopper, which conveys the carbid into vessel a through an inclined square chute d', from which the hopper is separated by a slide d^5. The chute may be cut off from the hopper by means of this slide, which is closed when a fresh charge of carbid is filled into the hopper, so that gas cannot escape.

Set back from the discharge end of the chute is an inclined downwardly-extending fender d^2 and an upwardly-extending plate d^3, between which a pocket d^4 is formed. This pocket is arranged above the discharge end of the chute, and its mouth is traversed by the same gate, f, which regulates the discharge of carbid from the chute. Owing to the set-back fender or bottom plate d^2 the lower end of the pocket communicates with the top of the chute back of the gate f, so that carbid particles may rise and fall within the pocket. The object of this construction is to prevent any jamming of the discharge-gate f, as the pocket provides a chamber within which any particles of carbid which are dislodged by the gate may fall and by which they are returned to the chute.

To the mouth of the chute d' is secured a flanged guide e, Fig. 3, that embraces the vertically-movable gate f, that controls the discharge of the carbid into tank a. The gate f carries a tubular duct f', which is connected to the bell b by rod f^2, so that in this way the gate is raised and lowered together with the bell. When the gate is lowered so that its upper edge is beneath the fender d^2, the carbid will drop through the duct f' into the tank a, while when the gate is raised above the fender d^2 the further discharge of carbid is prevented. Thus it will be seen that the introduction of carbid takes place in proper proportion to the pressure within the gas-holder.

The tank a is preferably connected by pipes g' with storage-tanks g, having bells g^2, Fig. 4, so that a greater volume of gas is always on hand. The gas flows through pipe h into a suitable washer h' and thence to the service-pipe h^2.

The bell b is provided with a stop b' to limit its vertical play and with the usual blow-off pipe b^2.

What I claim is—

1. In an acetylene-gas generator, the combination of an inclined carbid-chute with a communicating pocket arranged above the discharge end thereof, and with a gate for closing the chute and the pocket, substantially as specified.

2. In an acetylene-gas generator, the combination of an inclined carbid-chute with a pocket arranged above the discharge end thereof and having an inclined bottom plate which is set back from the end of the chute, and with a gate for closing the chute and the pocket, substantially as specified.

3. In an acetylene-gas generator, the combination of a carbid-hopper with an inclined

carbid-chute, an intermediate slide, a pocket communicating with the chute and arranged above the discharge end thereof, and a gate for closing the chute and pocket, substantially as specified.

4. In an acetylene-gas generator, the combination of an inclined carbid-chute with a communicating pocket arranged above the discharge end thereof, and with a gate adapted to close the chute and pocket, said gate being provided with a tubular carbid-duct, substantially as specified.

Signed by me at New York, county and State of New York, this 31st day of January, 1901.

RUDOLPH FEDERROLL.

Witnesses:
WILLIAM SCHULZ,
F. v. BRIESEN.