

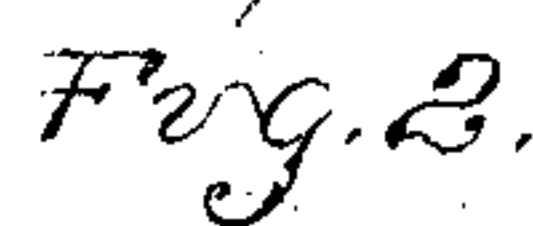
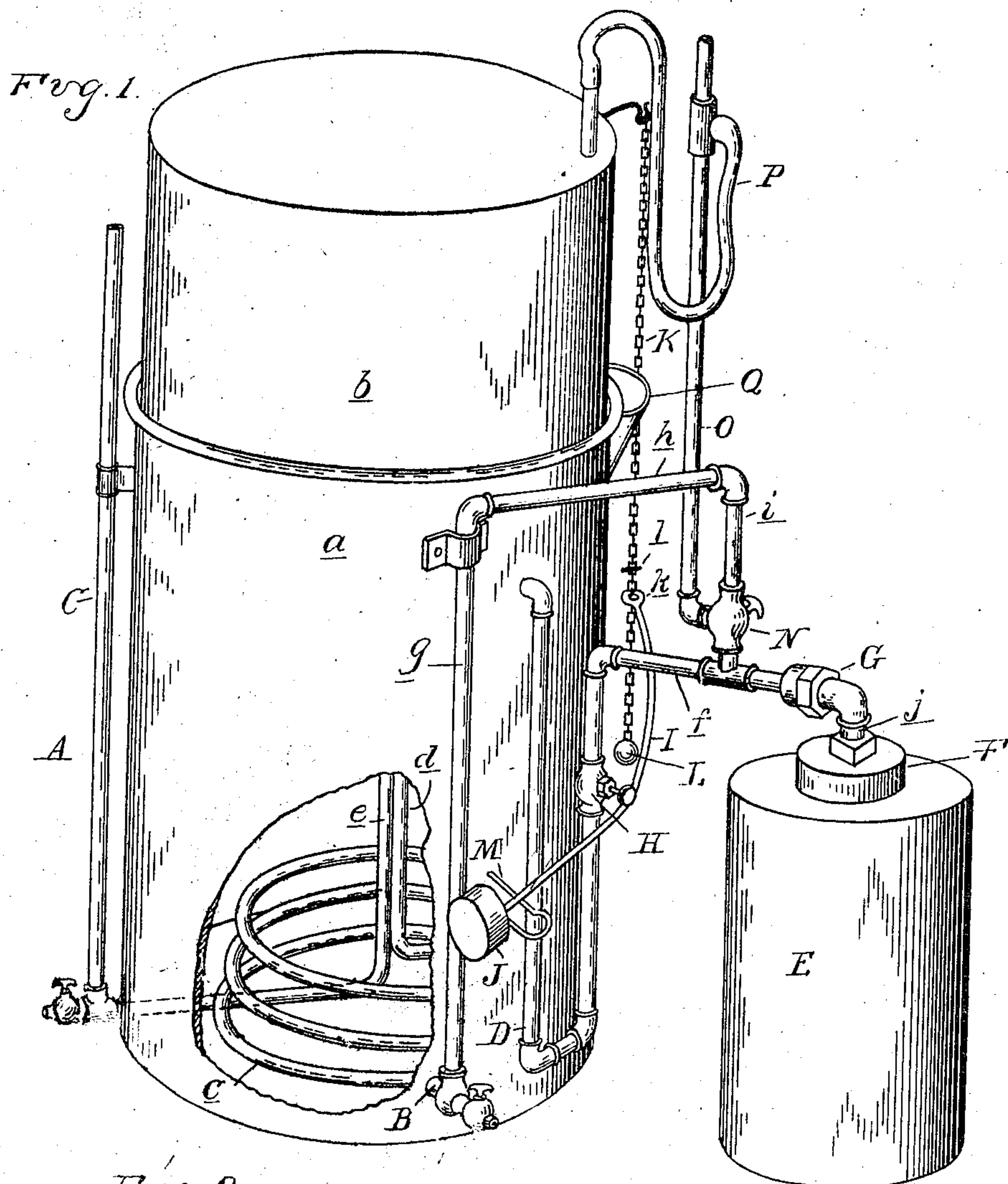
**No. 616,147.**

**Patented Dec. 20, 1898.**

**J. SCHALDENBRAND.**  
**ACETYLENE GAS GENERATOR.**

(Application filed Mar. 16, 1898.)

(No Model.)



Witnesses

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# UNITED STATES PATENT OFFICE.

JOSEPH SCHALDENBRAND, OF MOUNT CLEMENS, MICHIGAN, ASSIGNOR TO  
FRANK W. PREUSSELL, OF SAME PLACE.

## ACETYLENE-GAS GENERATOR.

SPECIFICATION forming part of Letters Patent No. 616,147, dated December 20, 1898.

Application filed March 16, 1898. Serial No. 674,122. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH SCHALDENBRAND, a citizen of the United States, residing at Mount Clemens, in the county of Macomb and State of Michigan, have invented certain new and useful Improvements in Acetylene-Gas Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention consists in the peculiar arrangement and combination of parts, as more fully hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of my apparatus. Fig. 2 is an elevation of the gasometer, showing the controlling mechanism for the water-supply pipe leading to the generator. Fig. 3 is a vertical section through the top of the generator and its connections.

A is a gasometer comprising the water-tank *a* and gas-tank *b*, of ordinary construction.

B is the gas-inlet pipe, which enters the tank *a* near the bottom thereof and inside of said tank is formed into a coil *c*, terminating in an upwardly-extending pipe *d*, which rises above the water-level in the tank. C is the gas-outlet pipe, which also passes through the tank *a* near the bottom thereof and is provided with the upward extension *e*, rising beside the pipe *d*.

D is a pipe connecting with the tank *a*, preferably near its upper end, but at a point below the lowest water-level therein. This pipe preferably extends downward and then upward again, terminating in a laterally-extending section *f*. The pipe B outside of the tank *a* comprises the upward extension *g*, which rises to a point above the pipe *f*, the laterally-extending section *h*, and the vertical section *i*, the latter connecting with the pipe *f*.

E is the generator, preferably in the form of a cylindrical casing having a fill-aperture at its upper end and the detachable cover F therefor, the latter being secured so as to form a gas-tight joint either by having a screw-threaded engagement with a flange on the casing E or by sealing with cement or in any other suitable way. Secured into the cover F is the pipe *j*, which forms both an outlet for the gas and an inlet for the water. This pipe is detachably connected with the pipe *f* by a

coupling or union G, preferably the ordinary form of pipe-union.

II is a valve located in the upwardly-extending portion of the pipe D.

I is a controlling-lever, at one end of which is the weight J and at the other end the loop *k*.

K is a chain connected to the upper tank *b* of the gasometer and passing down through the loop *k* of the lever I. L is a weight at the lower end of this chain, and *l* is a pin or stop in the chain above the loop *k*, adapted to engage therewith when the tank *b* is lowered.

M is a bracket secured to the tank, on which the weighted end of the lever I normally rests.

N is a valve in the pipe *i*, preferably a three-way valve, and O is an escape-pipe, with which the third passage of said valve is adapted to connect.

P is a pipe connected with the escape-pipe and passing into the gasometer, arranged to have its end normally sealed by the water therein, but to be uncovered when the tank *b* rises above a certain point.

Q is a fill-spout on the side of the tank *a*. The parts being constructed and arranged as shown and described, the operation is as follows: The tank *a* of the gasometer is filled, through the spout Q, with water up to the proper level. In the receptacle E is placed a quantity of carbide of calcium, and after the cover F is secured in place the receptacle is connected with the pipe *f* by means of the coupling G. When the gas-tank *b* is in its lowered position, the stop *l* will engage with the loop *k* of the lever I, and the weight L on the end of the chain will draw the lever I down into a position where the valve II is opened. This will allow the water to pass through the pipe D into the section *f* thereof and through the section *j* into the receptacle E, where it will fall on a perforated distributing-plate R, and, coming into contact with the carbide, it will cause the generation of the gas, which will pass up through the pipes *j* and *f* into the section *i* of the pipe B and through the section *h*, the coil *c*, and riser *d* into the gas-tank *b*. In passing through the coil *c* the gas will be cooled before liberation in the gas-tank. When the tank *b* rises sufficiently to draw the stop *l* out of engagement



with the loop *k*, the weight *J* on the opposite end of said lever will cause the valve *H* to close, thus cutting off the water-supply to the generator, stopping the generation of gas. Should the tank *b* rise to a height where there is danger of breaking the water seal, the end of the pipe *P* will be uncovered and allow some of the gas to escape into the pipe *O*. When the charge of carbid is exhausted, the receptacle *E* may be readily detached by unfastening the coupling *O*, after which the receptacle may be emptied and refilled. Before disconnecting the receptacle, however, the valve *N* is turned into a position where it will shut off communication with the pipe *i* and open connection with the escape-pipe *O*. This will allow the gas which remains in the receptacle *E* to escape before said receptacle is detached, and thus prevents its escaping into the room. At the same time the gas in the gasometer is held from escaping while the generator-receptacle is detached. After the receptacle is refilled and replaced the valve *N* may be left in the same position long enough to allow the generation of gas to start, and thus the air contained in the receptacle will be forced out through the vent-pipe *O*. The valve may then be turned to shut off said vent-pipe and open connection with the pipe *B*. By this arrangement all danger of forming an explosive mixture of gas and air is avoided.

What I claim as my invention is—

1. In a gas apparatus, the combination with a generator, and a gasometer, of a water-supply pipe for said generator connected therewith, a gas-inlet pipe for the gasometer connecting with said water-supply pipe, a gas-escape pipe connecting with said gas-inlet pipe, and a valve controlling said gas inlet and escape pipes, and adapted to establish or cut off communication between the gas inlet or escape pipes and the water-supply-pipe.

2. In a gas apparatus, the combination with a gasometer provided with a water-tank, and a gas-generator, of a water-supply pipe connecting the water-tank and generator and provided with a lateral extension, a gas-inlet pipe for the gasometer having a connecting portion extending upwardly from said water-supply pipe, a gas-escape pipe connecting with said upwardly-extending connecting portion, a three-way valve controlling said gas inlet and escape pipes and adapted to establish or cut off communication between the same and the water-supply pipe, and a controlling-valve for said water-supply pipe.

3. In a gas apparatus, the combination with the generator-casing and a gasometer provided with gas-inlet and water-outlet pipes, of a lateral extension of said water-pipe leading to and connected with said generator, a connecting-pipe extending upward from said lateral pipe to said gas-inlet pipe, a valve in said upwardly-extending pipe below its connection with the gas-inlet pipe, a controlling-valve in said water-pipe and a coupling in said laterally-extending pipe between said upwardly-extending connecting-pipe and the generator.

4. The combination with the generator-casing, a gasometer provided with gas-inlet and water-outlet pipes and a common pipe connecting said gas and water pipes with the generator-casing, of a coupling in said common pipe, a valve controlling said water-pipe, a three-way valve controlling said gas-inlet pipe, and an escape-pipe with which said valve is adapted to connect said generator when turned to cut off said gasometer.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH SCHALDENBRAND.

Witnesses:

OSCAR C. LUNGERHAUSEN,  
ALFRED J. PARKER.