

No. 891,094.

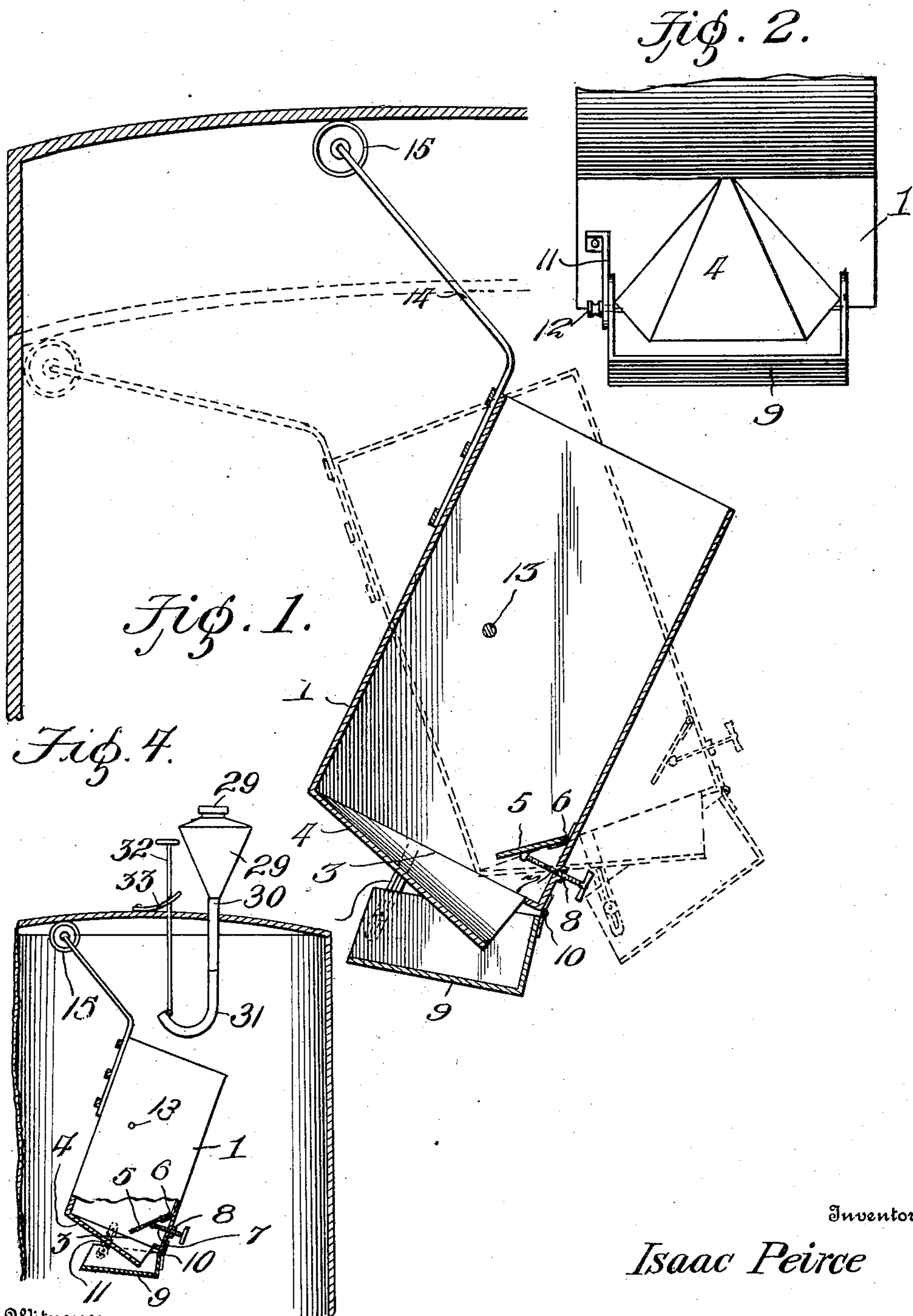
PATENTED JUNE 16, 1908.

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CARBID FEEDER FOR ACETYLENE GENERATORS.

APPLICATION FILED MAY 6, 1907.

2 SHEETS—SHEET 1.



Inventor

Isaac Peirce

By

Victor J. Evans

Attorney

Witnesses

Frank B. Hoffmann
C. Bradway.

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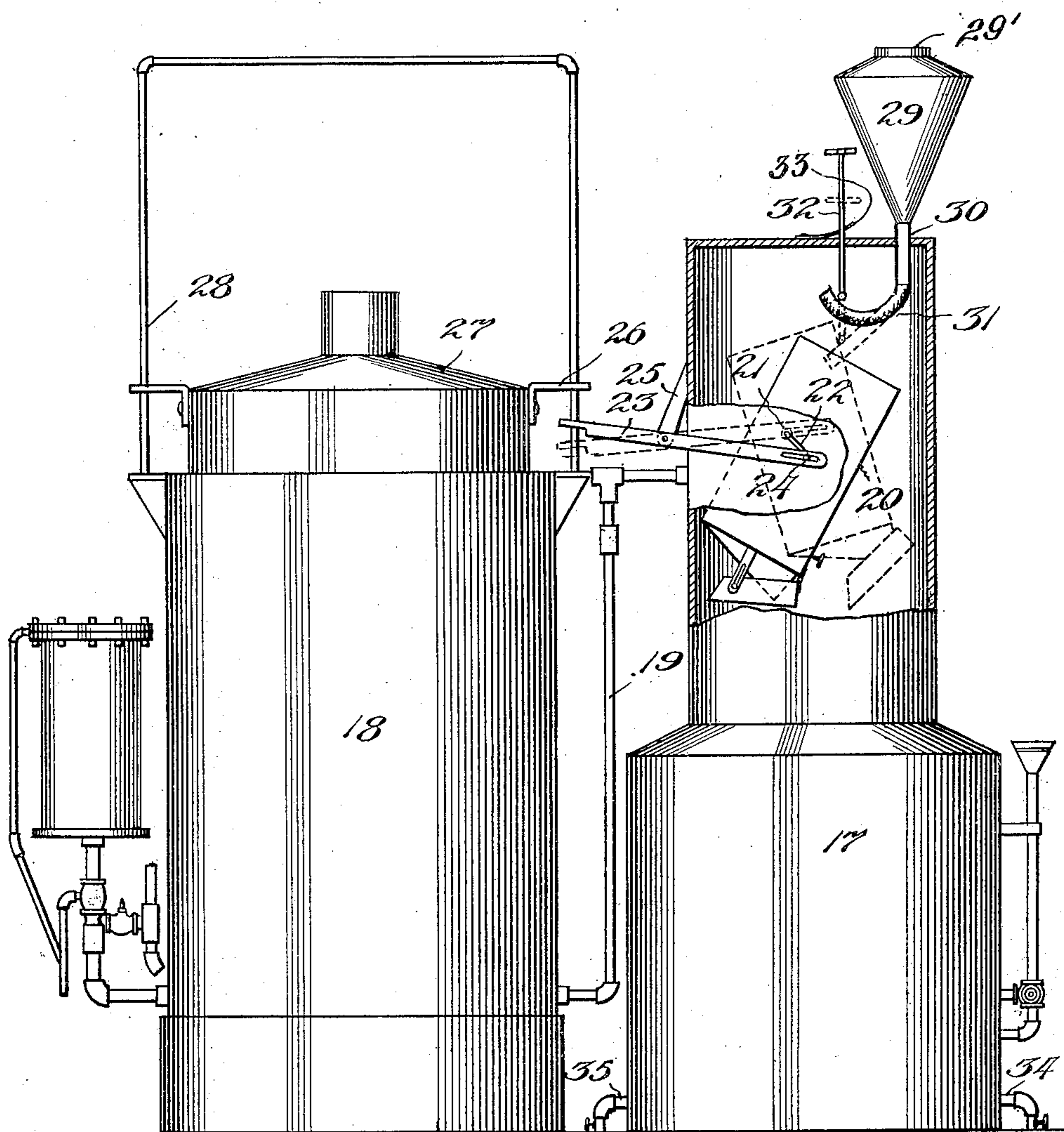
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2 SHEETS—SHEET 2.

Fig. 3.



Inventor

Isaac Peirce

Witnesses

Frank B. Hoffman,
C. Bradway.

By *Victor J. Evans*

Attorney

UNITED STATES PATENT OFFICE.

ISAAC PEIRCE, OF TAZEWELL, VIRGINIA.

CARBID-FEEDER FOR ACETYLENE-GENERATORS.

No. 891,094.

Specification of Letters Patent.

Patented June 16, 1908.

Application filed May 6, 1907. Serial No. 371,982.

To all whom it may concern:

Be it known that I, ISAAC PEIRCE, a citizen of the United States, residing at Tazewell, in the county of Tazewell and State of Virginia, have invented new and useful Improvements in Carbid-Feeders for Acetylene-Generators, of which the following is a specification.

This invention relates to a feeding device for acetylene generators, and relates more particularly to a swinging container or holder for the carbid mounted in the gasometer and operated directly by the vertical movement thereof, as in the case of a combined generator and gasometer, or which is located in the generator chamber and operated through a suitable mechanism controlled by the movement of the gasometer bell, as in that type of apparatus in which the generator is separate from the gasometer.

The invention has for one of its objects to improve and simplify the construction and operation of devices of this character so as to be comparatively easy and inexpensive to manufacture, thoroughly reliable and efficient in use, and capable of being readily adjusted for regulating the feed of the carbid to the water in the generator.

A further object of the invention is the provision of a carbid feeding device which is mounted for oscillation within the generator of the apparatus and adapted to be automatic in its operations, the movement of the gasometer being depended upon for oscillating the feeder to periodically discharge the requisite amount of carbid to maintain a continuous generation of gas.

Another object of the invention is the provision of a suitable container having an inclined bottom or chute, with an adjustable deflector over the discharge end of the chute, and an adjustable pan or suitably shaped member that receives a charge from the chute while the container or holder is in one position, and empties said charge into the water while in another extreme position.

A still further object is the employment of a hopper arranged above the open end of the carbid container or holder and provided with a flexible spout controlled from outside the apparatus for conveniently re-charging the holder from time to time, without requiring the latter to be removed.

With these objects in view, the invention comprises the various novel features of construction and arrangement of parts which

will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawing, which illustrates one of the embodiments of the invention:—Figure 1 is a vertical section of the carbid feeding device. Fig. 2 is a side elevation of a bottom portion thereof. Fig. 3 is a front elevation of a separate generator and gasometer set equipped with the improved carbid feeder. Fig. 4 is a sectional view of the upper portion of a generator and the carbid feeding device.

Similar reference characters are employed to designate corresponding parts throughout the several views.

Referring to the drawing, 1 designates a metal container or holder for carbid of parallelopiped or any other suitable form, and preferably open at its top.

The bottom of the holder is provided with an opening 3 of triangular shape under which is arranged an inclined scoop-like chute 4 through which the charges of carbid are delivered. Arranged within the holder 1, at a point above the edge of the chute 4, is a deflector plate or valve 5 hinged at 6 and resting on the inner end of an adjusting screw 7. This screw extends through a threaded opening 8 in the wall of the holder 1 and can be turned to adjust the position of the deflector plate so as to regulate the flow of carbid from the chute.

Arranged under the chute is a scoop-shaped member or pan 9 that is hinged at its closed end to the lower edge of the holder adjacent the discharge end of the chute, the hinge being indicated at 10.

The member 9 may be adjusted to vary its inclination, by means of a slotted strip 11 depending from the bottom of the holder 1 and a screw or bolt on the member 9 extending through the slot of the strip there being a clamping nut 12 on the screw.

The holder 1 is adapted to be mounted within the generator of the acetylene generating apparatus and is fulcrumed or journaled on a horizontal shaft 13.

When the carbid feeding device is used in connection with a combined generator and gasometer, the holder is provided with an upwardly-extending arm 14 that carries on its extremity an anti-friction roller 15 which is adapted to engage the under surface of the bell 16 of the gasometer and ride along the

said surface, as the bell moves up and down with the variations in the volumes of the acetylene gas.

In practice, the holder is filled with carbid
 5 and as long as the bell is fully raised or supported by the gas, the holder will assume the full line position shown in Fig. 1. When the bell falls to its lowermost position, as the gas is consumed, the feeding device will be tilted,
 10 as shown by dotted lines. In the act of tilting, a charge of carbid will be deposited from the pan 9 into the water of the generator and gas will be created. This causes the bell to gradually rise and permit the feeding device
 15 to automatically return by gravity to the full line position. While turning from the dotted to the full line position, a charge of carbid will pass from the chute 4 into the pan 9 and will be retained in the latter until the
 20 device is again tilted by the lowering of the bell by the consumption of the acetylene gas. The member 5 serves to regulate the amount of material supplied for each charge and co-operates with the chute for preventing material
 25 from being delivered continuously into the water when the device is in the dotted line position. By adjusting the pan or member 9, the position at which the device will deposit a charge into the water can be regulated to a nicety.
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Referring to Fig. 3, which illustrates a separate generator and gasometer set, 17 represents a generator and 18 the gasometer of any approved construction and which are
 35 connected by a gas pipe 19, in the usual manner.

In the upper portion of the generator body is the oscillating carbid holder 20, mounted on a horizontal shaft 21 journaled at its ends
 40 in the walls of the generator body. One end of the shaft 21 is formed into a crank 22, located outside of the generator and connected with a lever 23 by a slot connection designated by 24. The lever 23 is fulcrumed on a
 45 bracket 25 and has one end disposed in the path of a projecting member 26 on the bell 27 of the gasometer so that as the gasometer falls to its lowermost position the lever 23 will be actuated and thereby swing the carbid holder 20. The projecting member 26 for
 50 actuating the lever is one of a pair of apertured ears on the bell 27 that engage vertical guide rods 28 for guiding the movement of the bell. The carbid holder is of the same
 55 construction as the one heretofore described and operates in a similar manner. As long as the bell 27 contains gas the parts on the carbid feeding device will be in a full line position and as soon as the gas is consumed the
 60 bell operates through the lever 23 to throw the carbid holder to the dotted line position whereupon a charge of carbid is dropped into the water. The resulting gas causes the bell 27 to rise and the member 26, disengages
 65 from the lever so that the parts of the feeding

device can return to normal position by gravity and be in readiness to deposit another charge of carbid when again tilted to the dotted line position.

The carbid holder is preferably permanently mounted in the generator and in order to refill the holder from time to time, a hopper 29 is supported on the top of the generator and has a neck 30, extending into the generator. Attached to this neck is a flexible
 75 spout 31 to which is hingedly connected an actuating rod 32 passing through the top of the generator. The hopper is normally closed by means of a cap or cover 29' which prevents the escape of gas to the atmosphere. 80
 This rod is held in adjusted position by a spring dog 33. When the spout is in the full line position the flow of carbid from the hopper 29 to the holder 20 is effectively cut off but when the spout is shifted to the dotted
 85 line position by means of the actuating rod 32, the carbid will flow into the holder to recharge the same. The hopper, which is preferably gas tight, can be conveniently supplied any time so as to be in readiness to refill the holder when desired. Communicat-
 90 ing with the bottom of the generator are two pipes 34 and 35 controlled by valves, one pipe serving as a drain and the other for supplying water to flush out the generator. 95
 Thus, by opening the valves of the pipes a circulation through the generator can be produced so that the sediment can be effectively washed out.

From the foregoing description, taken in
 100 this connection with the accompanying drawing, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have
 105 described the principle of operation of the invention, together with the apparatus, which I now consider to be the best embodiment thereof, I desire to have it understood that such changes may be made as are within the
 110 scope of the invention.

Having thus described the invention, what is claimed, is:—

1. A carbid feeding device for acetylene generators, comprising an oscillating receptacle open at its bottom, a horizontal axis on which the receptacle is adapted to tilt, an adjustable member in the receptacle for controlling the flow of material out of the bottom thereof, an adjustable member adapted
 115 to receive a charge of material from the receptacle and to deposit the same when the receptacle is tilted, and a bell-engaging member on the receptacle for tilting the latter by the movement of the bell of the generator. 120
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2. A carbid feeding device for acetylene generators comprising a swinging receptacle permanently open at its top and arranged to deliver successive charges by the swinging movement of the receptacle, a stationary
 130

carbid holder disposed above the top of the receptacle, a conduit connected with the holder, and a manually actuated means connected with the conduit for throwing it into and out of discharging position with respect to the receptacle.

3. A carbid feeding device for acetylene generating apparatus comprising a receptacle open at its bottom, an axis located eccentric to the center of the receptacle, means for moving the receptacle by the movement of the bell of the apparatus, an adjustable member attached to the receptacle and adapted when tilted to one position to discharge carbid, and means between the member and receptacle for depositing the carbid on the former when the receptacle is tilted in the opposite direction.

4. A device of the class described comprising a receptacle open at its bottom, means on which the receptacle is adapted to operate, and an adjustable member arranged to receive a charge of carbid when the receptacle is in one position and to discharge the carbid when the receptacle is in another position.

5. A device of the class described comprising a receptacle open at its bottom, a chute on the bottom for delivering carbid, an adjustable member within the receptacle for controlling the amount of carbid delivered by the chute, and an adjustable pan attached to the receptacle to move therewith for receiving carbid from the chute when the receptacle is in one extreme position and to deposit the carbid when the receptacle is in the other extreme position.

6. A device of the class described comprising a receptacle, a chute on the bottom thereof, a hingedly mounted member in the receptacle for controlling the discharge of carbid through the chute, means for adjusting the

member, a hingedly mounted pan located under the chute, means for adjusting the pan, and a shaft on which the receptacle tilts.

7. In a device of the class described, the combination of an oscillatory receptacle open at its top and mounted to deliver successive charges of carbid, a fixed container for carbid located above the receptacle, a spout located between the container and receptacle, and means for moving the spout to permit material to flow through the spout when the latter is in one position and to prevent material from flowing when the spout is in another position.

8. In a device of the class described, the combination of a carbid receptacle arranged to deliver successive charges of carbid, with a re-filling device therefor comprising a fixed carbid container, a flexible conduit connected with the container and adapted when in one position to prevent carbid from flowing to the receptacle and when in another position to permit carbid to flow into the latter, and means for moving the conduit into either position.

9. In a device of the class described, the combination of an oscillatory receptacle open at its top and bottom, means at the bottom thereof for intermittently discharging material, a bell, a member extending upwardly from the top of the receptacle, and an anti-friction device on the member bearing on the under side of the top of the bell for moving the receptacle with the latter.

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

ISAAC PEIRCE.

Witnesses:

VIRGINIA PEIRCE,
EUGENE PEIRCE.