

No. 661,547.

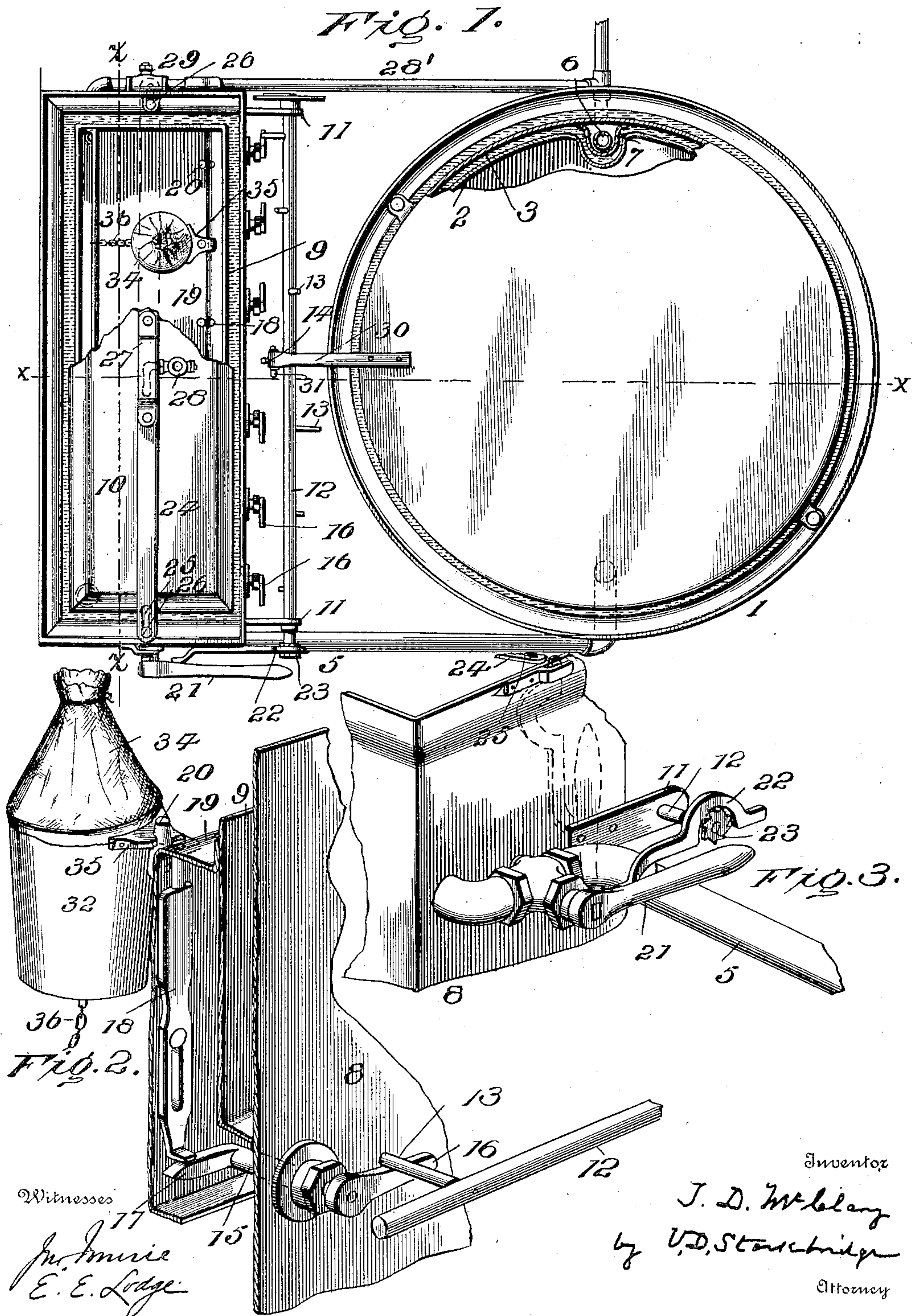
Patented Nov. 13, 1900.

T. D. McCLARY.
ACETYLENE GAS GENERATOR.

(Application filed Feb. 15, 1900.)

(No Model.)

2 Sheets—Sheet 1.



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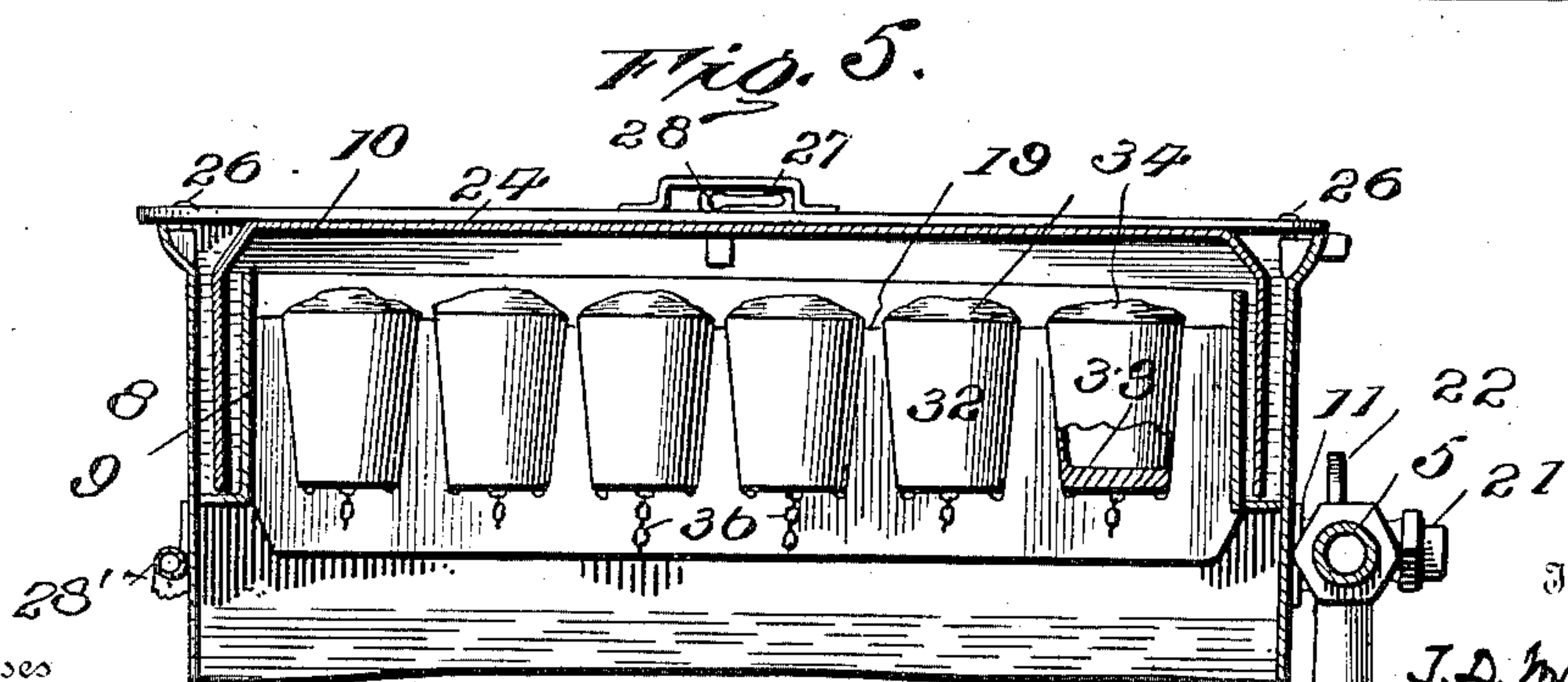
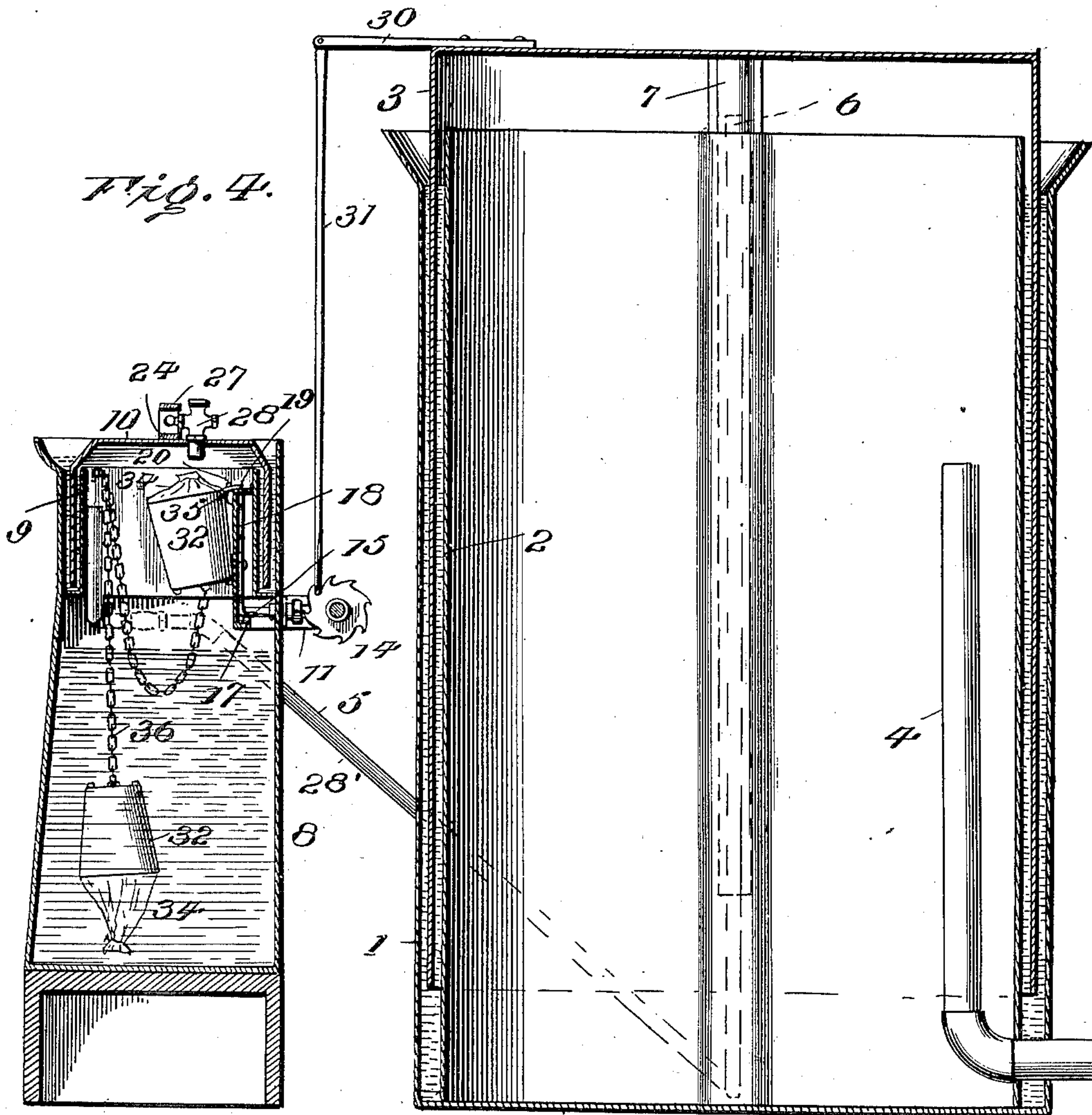
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2 Sheets—Sheet 2.



Witnesses

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UNITED STATES PATENT OFFICE.

THOMAS D. McCLARY, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR
TO THE ACETYLENE LIGHTING COMPANY, OF VIRGINIA.

ACETYLENE-GAS GENERATOR.

SPECIFICATION forming part of Letters Patent No. 661,547, dated November 13, 1900.

Application filed February 15, 1900. Serial No. 5,266. (No model.)

To all whom it may concern:

Be it known that I, THOMAS D. McCLARY, a citizen of the United States, residing at Washington, in the District of Columbia, have invented a certain new and useful Acetylene-Gas Generator, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to acetylene-gas generators.

The object of the invention is to provide an efficient, convenient, and safe apparatus for generating gas.

The invention consists in certain combinations hereinafter described and claimed.

Figure 1 is a plan of my invention, the cover and bell being broken away to show the relative arrangement of parts. Fig. 2 is a view showing the detaching-bolt and connections for operating the same in perspective. Fig. 3 is a perspective showing means for operating a cock and for alternately locking the cover-bolt and the tripping-shaft as the cock is opened or closed. Fig. 4 is a vertical section on the line *x x* of Fig. 1. Fig. 5 is a section on the line *z z* of Fig. 1.

As shown in the drawings, the gas-holder is of conventional character, and consists of outer body portion 1 with inner wall 2 to provide an annular water-chamber, an inverted bell portion 3, a service-pipe 4, an inlet-conduit 5, an overflow-pipe 6, leading to atmosphere outside the housing, and a duct 7, connected with the bell, telescoping with pipe 6 to permit the escape of gas to atmosphere in case more gas is generated than the holder will accommodate.

The generator embraces a vessel 8 and an inner wall 9 to provide a water-chamber or water seal for a flanged or bell cover 10.

Mounted on suitable brackets 11 11 is a rotary shaft 12, carrying a plurality of arms 13 13, arranged in spiral order and having keyed thereto a ratchet-wheel 14.

Through the wall of generating vessel and suitable stuffing-boxes are mounted a series of rock-shafts 15 15, each carrying oppositely-projecting arms 16 and 17 outside and inside the vessel, respectively. In the range of the arms 17 are mounted vertically-arranged detaching-bolts 18 18, which extend through

openings in a shelf or bracket 19. Opposite or adjacent to the bolt-openings in the shelf are fixed a series of pins or vertical hooks 20 20 for suspending carbid-containers herein-after described.

In the conduit 5, leading from generator to holder, is a valve or cock carrying an operating arm or handle 21, and a pawl or stop 22, which engages a ratchet 23 on shaft 12, locks said shaft and prevents it from being turned or operated when the cock is closed. The body of the pawl or stop 22 also serves as a dog or stop to prevent the removal of the cover-holding bolt 24 when the valve is open. The cover-holding bolt 24 is provided at opposite ends with buttonhole-slots 25, which are adapted to engage knobs or heads 26 of studs attached to the vessel. This bolt is also provided with a strap 27, which serves to prevent a vent-cock 28 from being operated while the cover is locked in position.

The purpose of the vent-cock is to permit the access and expulsion of air as the cover is removed and replaced from and to position in the process of introducing carbid and removing the carbid-containers to and from the generator. I have shown another way of admitting and expelling air to and from the generator to provide for the ready removal and replacement of the cover, consisting of pipe 28', leading from generator to the overflow-pipe 6, the pipe 28' having a vent cock or valve 29 for opening and closing the same.

Either of the vents herein described may be used without the other to permit the ready removal and replacement of the generator-cover; but when used alone the gas or that portion of the gas in the generating-chamber above the water would escape into the apartment in which the generator is situated and impart its odor to the surrounding atmosphere. By the use of the two together, however, all of the gas may be expelled from the chamber above the water before the cover is entirely removed from the water seal. This may be accomplished in the following manner: The cock 21 being closed and communication cut off between the generator and the holder, the cock 29 is opened and all the excess of gas due to pressure within the generator passes off through overflow-pipe 6. The

cover-holding bar being now removed and vent-cock 28 opened, the cover is raised nearly out of the water seal and the cock then closed. The cover being now pushed down serves to
 5 force out a portion of the contents of the chamber through overflow-pipe 6, and this operation being repeated all the gas is expelled and air only remains in the chamber, when the cover may be removed without danger and also
 10 without liberating any odor in the apartment.

Connected with the bell of the holder is an arm or bracket 30, which carries a pendent pawl or bar 31 for intermittently operating shaft 12 through ratchet 14 as the bell falls
 15 or settles down, thereby causing the spirally-arranged arms 13 to successively operate the rock-shafts 15, and said shafts, through arms 17, to raise the detaching-bolts 18, and thus intermittently remove the carbid-containers
 20 from their hooks.

Each carbid-container consists by preference of a flaring vessel 32, having a thick or loaded bottom 33 and a sack-like mouth part 34, the part 32 having a lateral perforated
 25 bracket 35 for engagement with the vertical hooks 20. The containers may have chain or other flexible connections 36 attached to suitable hooks in the generator for convenience in removing them from the vessel after
 30 their contents have been decomposed. By having a sack-like attachment and by tying the mouth the lime residuum is retained in the device and readily withdrawn without discharging and wasting the gas-saturated
 35 water.

Having described my invention, I claim—

1. In acetylene-generators the combination of a fixed hanger for a carbid-container, a vertically-movable detaching-bolt for releasing
 40 the container from the hanger, and means actuated by the falling bell for controlling the movement of the bolt.

2. An acetylene-generator embracing a

tank, a fixed hook or hanger within the tank, a vertically-movable detaching-bolt alongside
 45 the hanger, and means actuated by the falling bell for operating the bolt.

3. In acetylene-generators the combination of a tank, a plurality of hangers arranged within the tank, a detaching-bolt alongside
 50 each of the hangers, a plurality of rock-shafts, each having an arm in the range of one of the bolts within the tank, and each having an arm outside the tank in the range of a tripping mechanism actuated by the falling bell of the
 55 holder.

4. In an acetylene-generator having a removable cover for closing it, a gas-conduit leading from the same, and means for dropping carbid-containers, the combination of a
 60 conduit leading to a holder, a cock in the conduit, a rotary tripping-shaft, a cover-holding bolt and a pawl or stop connected with the cock to prevent rotation of the shaft when the cock is closed and for projecting into the path
 65 of the cover-holding bolt when the cock is open.

5. In acetylene-generators having a water-sealed cover, the combination of a vent-cock and a cover-holding bolt having a loop or strap
 70 adapted to lie over the handle of the cock and prevent it from being operated while the cover is closed.

6. In acetylene-generators the combination of a tank having vertical hangers or hooks
 75 rigidly fixed to a stationary part of the generator, and a carbid-container having a lateral arm or a bracket for connection with a hanger, and means for automatically detaching the container from the hook.
 80

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

THOMAS D. McCLARY.

Witnesses:

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 S. A. TERRY.