

No. 674,613.

Patented May 21, 1901.

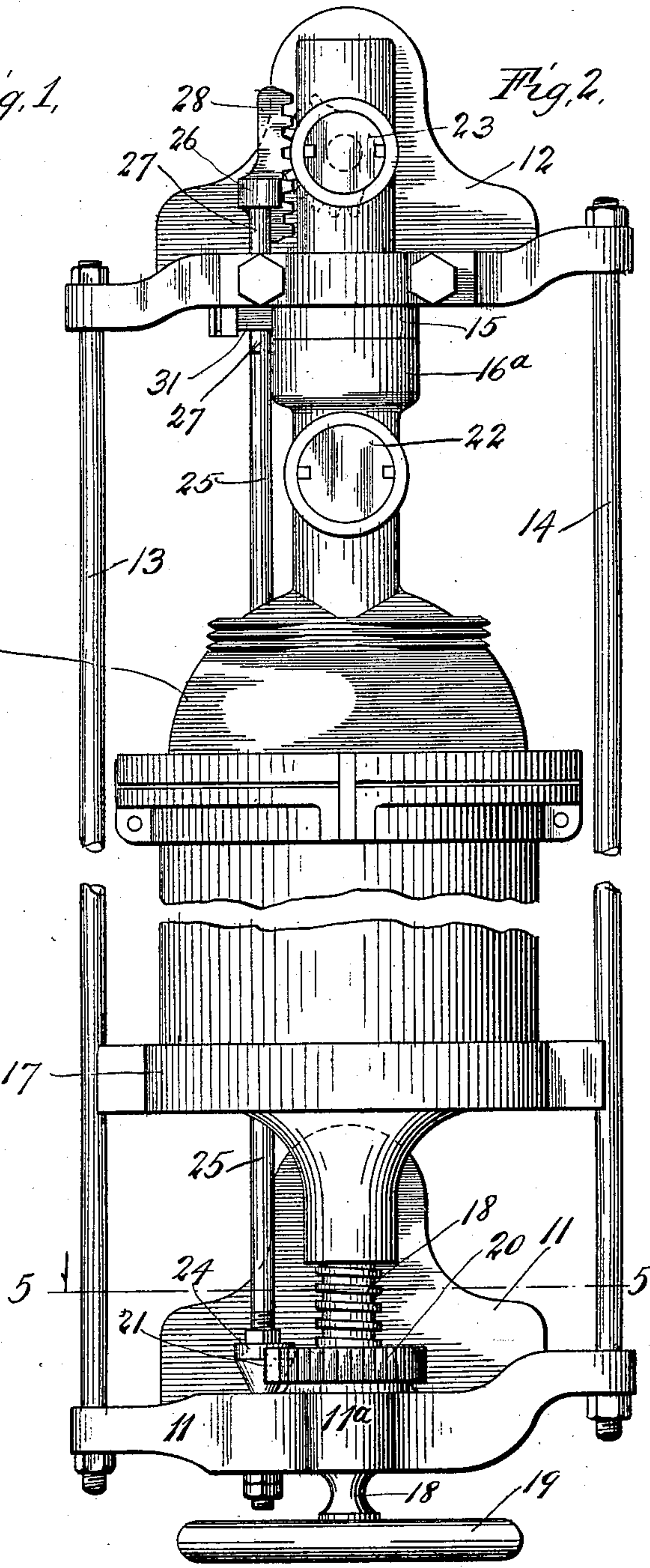
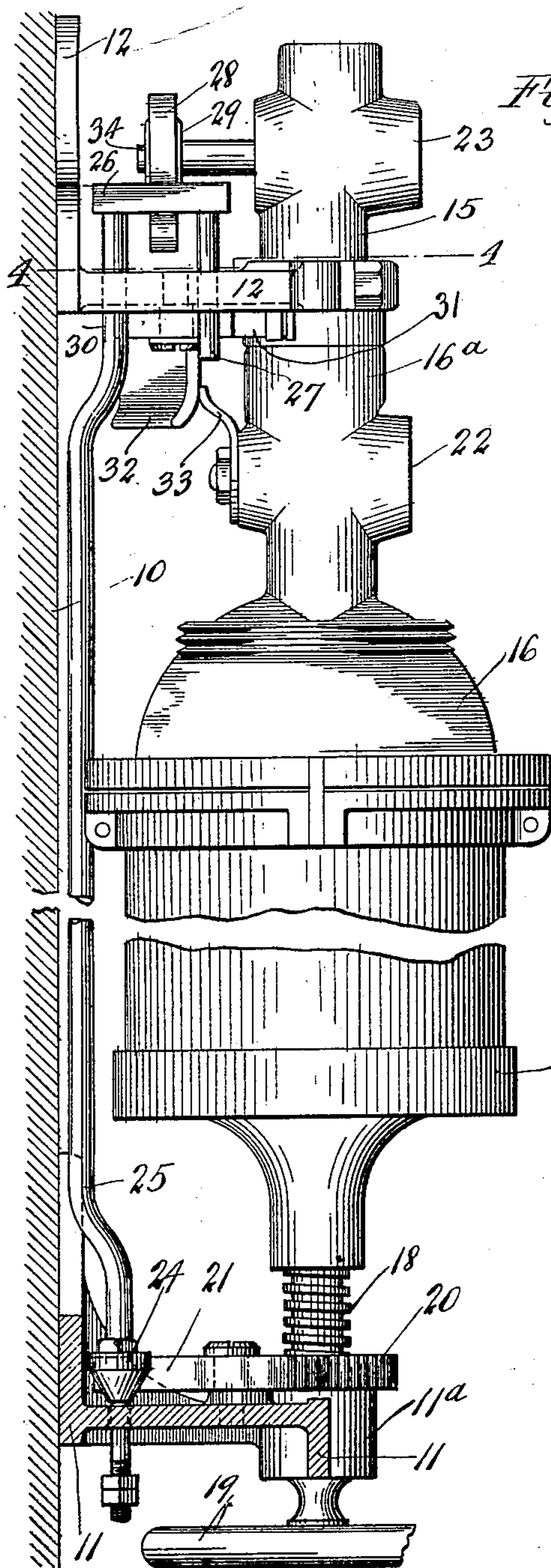
J. A. MOSHER & W. WISHART.

ACETYLENE GAS GENERATOR.

(Application filed Jan. 2, 1901.)

2 Sheets—Sheet 1.

(No Model.)



Witnesses  
Watson Hurlburt  
Wm. Geiger.

Inventors  
John A. Mosher  
William Wishart  
By Louis K. Gilson Atty.

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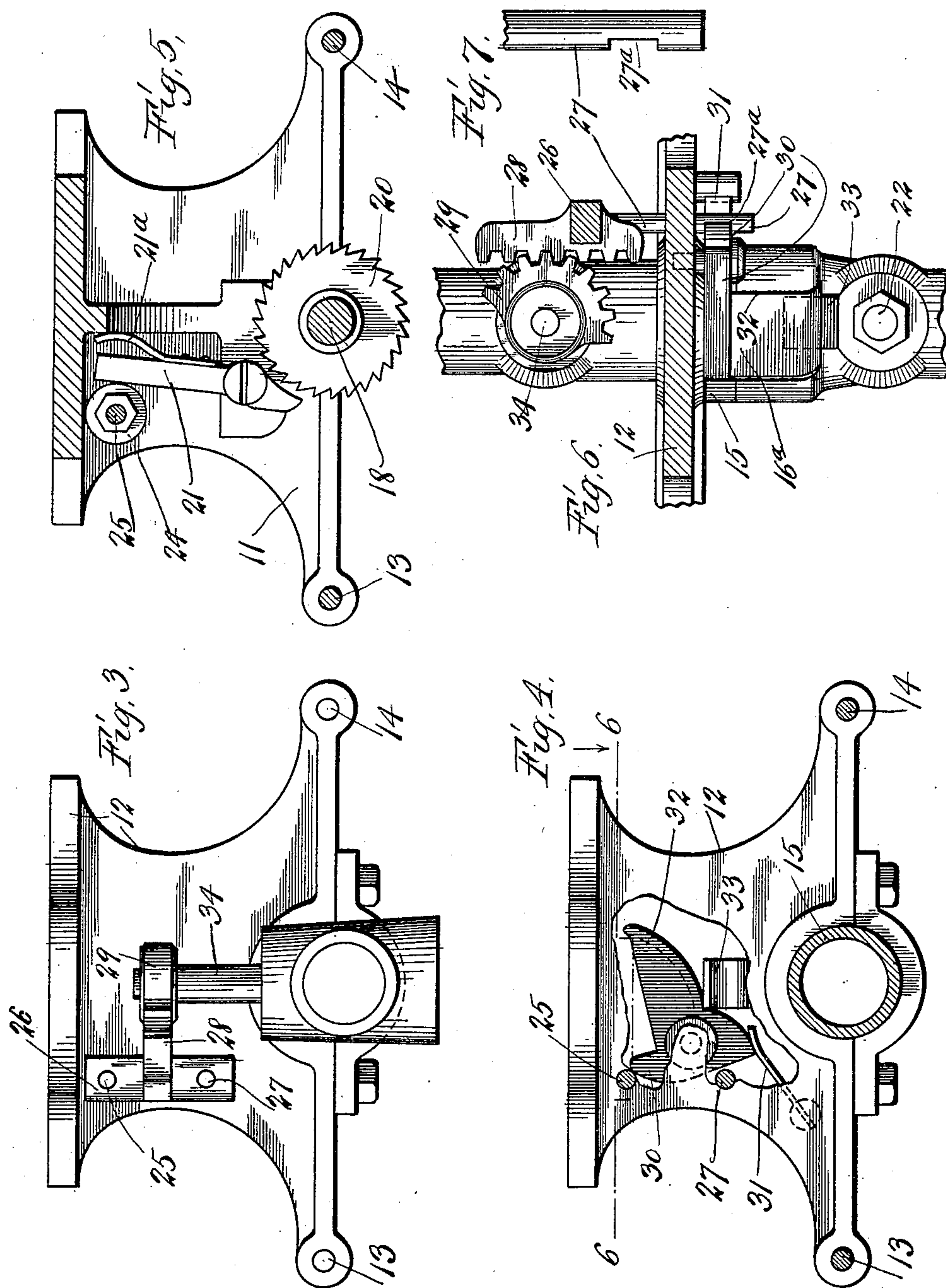
**J. A. MOSHER & W. WISHART.**

## ACETYLENE GAS GENERATOR.

(Application filed Jan. 2, 1901.)

(No Model.)

**2 Sheets—Sheet 2.**



Witnesses  
Nelson Harburt.  
Wm. Geiger.

Inventors  
John A. Mosher  
William Wishart  
By Louis K. Gelson Atty.



# UNITED STATES PATENT OFFICE.

JOHN A. MOSHER AND WILLIAM WISHART, OF CHICAGO, ILLINOIS, ASSIGNORS  
TO THE ADAMS & WESTLAKE COMPANY, OF ILLINOIS.

## ACETYLENE-GAS GENERATOR.

SPECIFICATION forming part of Letters Patent No. 674,613, dated May 21, 1901.

Application filed January 2, 1901. Serial No. 41,922. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN A. MOSHER and WILLIAM WISHART, citizens of the United States, and residents of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Acetylene-Generators, of which the following is a specification, and which are illustrated in the accompanying drawings, forming part thereof.

This invention relates to that type of generators shown in Patent No. 652,974, granted July 3, 1900, to J. A. Mosher, in which a generating-cell is removably attached to the piping-system by means of which water is delivered to the cell and gas conveyed therefrom, and more particularly it relates to means for interlocking the valves of the cell and piping system and the locking means for securing the cell in position; and it consists in the hereinafter-described construction, which is in many respects substantially the same as the construction forming the subject of said Mosher's pending application, Serial No. 27,679, filed August 22, 1900.

In the accompanying drawings, Figure 1 is a detail side elevation, partly in section, of the generating-cell and the nipple with which it is engaged. Fig. 2 is a detail front elevation of the same. Fig. 3 is a plan of the device as shown in Figs. 1 and 2. Fig. 4 is a plan section on the line 4 4 of Fig. 1. Fig. 5 is a plan section on the line 5 5 of Fig. 2. Fig. 6 is a sectional view on the line 6 6 of Fig. 4, and Fig. 7 is a detail of one of the parts of the device.

There is shown in the drawings a wall-plate 10, to which the generator is secured, being carried by brackets 11 and 12.

13 and 14 are vertical rods connecting the two brackets and serving as guides for the chair 17, upon which the generating-cell rests.

15 is the nipple of the water and gas tubes (not shown) and is provided with a valve 23.

16 is the generating-cell, having a neck 16<sup>a</sup>, within which there is located a valve 22 and which engages the nipple 15. The cell 16 is seated upon the chair 17, having a downwardly-projecting stem apertured to receive a screw-rod 18, swiveled in a suitable hub 11<sup>a</sup> in the bracket 11 and having at its lower end

a hand-wheel 19, by which it may be rotated for the purpose of raising and lowering the chair. The cell having been seated upon the chair, the latter is raised, so as to force the neck 16<sup>a</sup> of the cell into engagement with the nipple 15.

A ratchet-wheel 20 is fixed upon the screw-rod 18, and with it there coöperates a pawl 21, which may be spring-controlled and which prevents the turning back of the screw-rod 18 in order to disengage the cell from the nipple.

All of the parts thus far named are shown in the before-mentioned patent.

The present invention adds to the device locking means, whereby the pawl 21 is disengaged from the ratchet by the closing of the valves 22 and 23. This is accomplished by means of a cam-block 24, shown as being in the form of an inverted truncated cone, which is carried by a rod 25, vertically movable in apertures in the brackets 11 and 12, so that by the descent of the rod the cam-block forces back the pawl out of engagement with the ratchet-wheel, allowing the hand-wheel 19 to be turned.

At the upper end of the rod 25 there is a cross-bar 26, from which there depends a short rod 27, playing in a suitable aperture in the bracket 12. The valve 23 is provided with a backwardly-projecting stem 34, upon which there is mounted a segmental gear 29, intermeshing with a rack-bar 28, fixed to the cross-bar 26, so that as the valve 23 is turned the rods 25 and 27 are thereby lowered and raised, thus effecting the engagement and disengagement of the cam-block 24 with the pawl 21, so that when the valve is opened the cam is out of engagement with the pawl, and the latter engages the ratchet-wheel 20 to prevent its rotation, while the closing of the valve brings the cam-block into engagement with the pawl, disengaging the latter from the ratchet-wheel 20, thus permitting the latter to be turned to disengage the cell from the nipple 15.

In order to prevent the disengagement of the pawl from the ratchet before the valve 22 is closed, a plate 30 is pivoted to the under side of the bracket 12 and is held by a spring 31 normally across the aperture within which the rod 27 plays, thereby preventing the descent of this rod.



An arm 33, fixed to the valve 22, is so disposed as to engage a cam-flange 32, formed upon the plate 30 for the purpose of forcing the plate backwardly against the resistance of the spring 31, so as to permit the descent of the rod 27. It will be seen, therefore, that in order to release the pawl 21 it is necessary first to close the valves 22 and 23 in the order named.

10 The rod 27 is provided with a notch 27<sup>a</sup>, adapted to receive the edge of the plate 30 when the latter is released from the arm 33 by the removal of the cell 16, thereby preventing the opening of the valve 23.

15 By the construction herein shown and described the locking mechanism is materially simplified and its control by the nipple-valve rendered positive. The cell cannot be removed without closing the nipple-valve.

20 This valve cannot be closed until the valve in the neck of the cell is closed, nor can it be reopened while the cell is disconnected from the nipple. The opening of the nipple-valve after the cell has been connected positively releases the pawl 21 from its controlling mechanism, so as to allow it to come into engagement with the ratchet-wheel.

We claim as our invention—

1. In combination, a gas and water nipple  
30 having a valve, a generating-cell having a

valve and being adapted to detachably engage the nipple, a detent for locking the cell in engagement with the nipple, means for controlling such detent, and positive connection between such controlling means and the nipple-valve whereby the one is actuated by the other.

2. In combination, a gas and water nipple having a valve, a generating-cell having a valve and being adapted to detachably engage the nipple, a detent for locking the cell in engagement with the nipple, means for controlling such detent, and rack-and-gear connection between such controlling means and the nipple-valve.

3. In an acetylene-generator, in combination, a water and gas nipple having a valve, a generating-cell having a valve and being adapted to engage the nipple, a screw for forcing the cell into engagement with the nipple, a ratchet-wheel on the screw, a pawl co-operating with the ratchet-wheel, a cam-block for controlling the pawl, a rack-bar for moving the cam-block, and a gear fixed to the nipple-valve for engaging the rack-bar.

JOHN A. MOSHER.

WILLIAM WISHART.

Witnesses:

LOUIS K. GILLSON,

E. M. KLATCHER.