

No. 658,568.

Patented Sept. 25, 1900.

J. A. MOSHER.  
ACETYLENE GENERATOR.

(Application filed Feb. 26, 1900.)

(No Model.)

2 Sheets—Sheet 1.

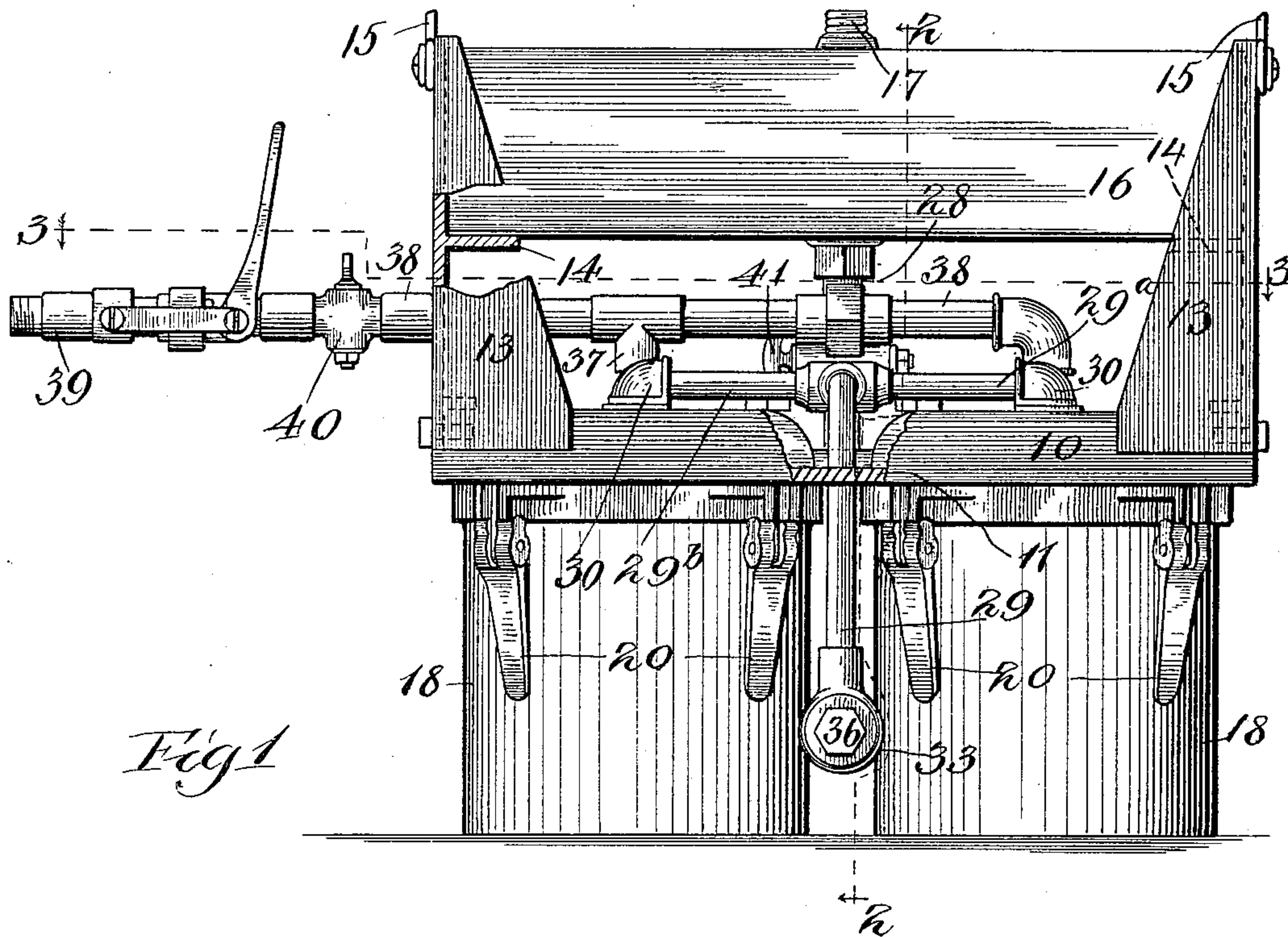


Fig 1

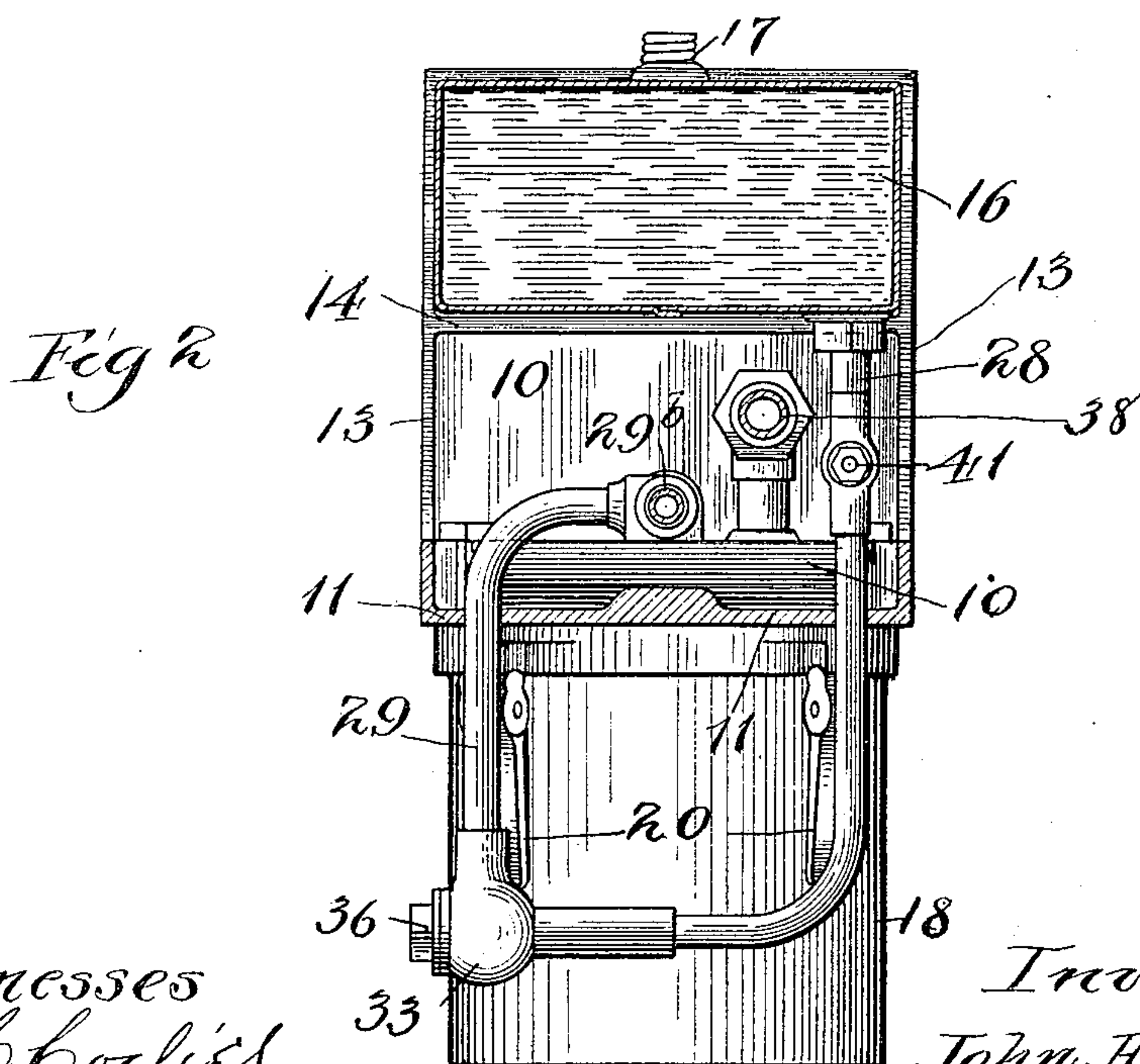


Fig 2

Witnesses  
W. C. Bodley  
Wm. Geiger

Inventor  
John A. Mosher

By Louis K. Gilson Atty

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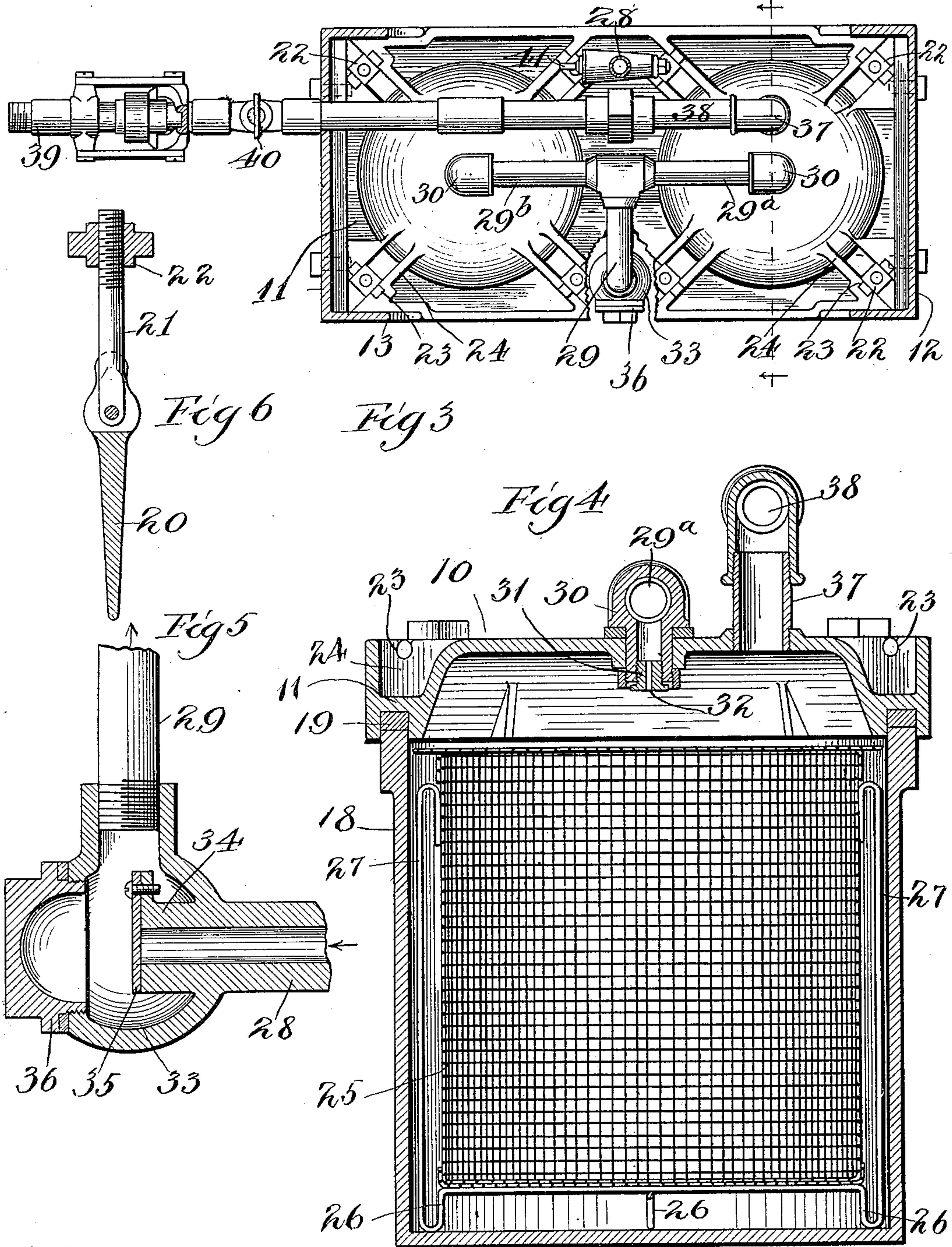
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Witnesses  
W. C. Corlies  
Wm. Geiger

Inventor  
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# UNITED STATES PATENT OFFICE.

JOHN A. MOSHER, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE ADAMS & WESTLAKE COMPANY, OF ILLINOIS.

## ACETYLENE-GENERATOR.

SPECIFICATION forming part of Letters Patent No. 658,568, dated September 25, 1900.

Application filed February 26, 1900. Serial No. 6,533. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN A. MOSHER, a citizen of the United States, and a resident 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 a part thereof.

The object of this invention is to provide a generator which may be readily detached from the gas-distributing system and is especially adapted for service in street-cars.

The invention consists in the construction hereinafter fully described, and which is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the generator, some parts being broken away. Fig. 2 is a cross-section on the line 2 2 of Fig. 1. Fig. 3 is a plan section on the line 3 3 of Fig. 1. Fig. 4 is a central vertical section through one of the generating-cells. Fig. 5 is a detail section of a portion of the water-pipe, and Fig. 6 is a detail of the clamp used on the device.

In order to adapt an acetylene-generator for service in connection with a street-car, it is essential that the generator shall be simple and compact, so that it may be readily stored in the car without occupying space available for other purposes, and that it be readily detachable from the gas-distributing system of pipes, so that it may be removed from the car for cleansing and recharging.

The generator forming the subject of this application is so constructed that it may be located beneath the car-seat when in service and may be easily removed from the car for recharging.

The device is provided with an oblong rectangular frame 10, the bottom and ends of which (shown at 11 and 12) are closed, the sides and top being open and consisting of mere rails, as shown at 13. The water-tank 16 fits within the top portion of this frame and rests upon instanding flanges 14. The water-tank is provided with a filling-nipple 17, and to the end plates of the frame may be secured a bale, the ends of which are shown at 15, by means of which the device as a whole may be carried.

A plurality of generating-cells is preferably employed, and each consists of a jar-shaped cylinder 18, secured to the under face of the bottom 11 of the frame 10 by means of clamp- 55 ing-levers 20, each of which is suspended from a link 21, depending from a block 22, resting in notches 23 in strengthening-ribs 24, formed on the upper face of the bottom of the frame 10. The toe of each of these levers 20 is 60 adapted to engage under the rim or suitable lugs formed thereon of the jar 18, so as to draw the latter firmly against the seat provided for its edge in the bottom of the frame, the long arm of the lever being turned down 65 against the side of the cell and moving a sufficient distance after the contact of the toe of the lever with the rim or the lugs thereof, so that the toe is inclined outwardly and the resistance offered to it tends to hold the lever 70 in place. A gasket 19 is applied to this seat, so as to insure a tight joint. Within each of the jars 18 there is a wire basket 25, provided with feet 26 and side arms 27, by means of which it is elevated from the bottom of the 75 jar and spaced apart from the side walls thereof. This basket receives the carbid and is open on top, so that water may be dropped upon it from above. A water-pipe 28 leads downwardly from the tank 16 to a point some- 80 what below the top of the cells and is then carried upwardly, as shown at 29, above the bottom 11 of the frame, and when, as in the instance shown, a plurality of cells is employed this pipe is branched, as shown at 29<sup>a</sup> 29<sup>b</sup>, to 85 lead to each cell and enters the same through a connection 30, central as to the cell, within the lower end of which is fitted a screw-plug 31, having a longitudinal duct 32 of small diameter. At the lower end of the por- 90 tion 29 of the water-pipe there is provided a check-valve, so that in the event of an excessive development of gas-pressure the gas cannot find its way back through the water-pipe into the tank. As a convenient form of 95 such check-valve I show a globe form of valve-casing 33, into which the end of the section 28 of the pipe projects, as shown at 34, a flexible flap-valve 35 being secured to this end of the pipe, so that the water may force its way 100 past it, but any back pressure will instantly seat the valve. A screw-plug 36 is fitted to



the valve-casing opposite the valve, serving as a means for adjusting the valve as well as for cleaning the pipe system.

5 A gas-pipe leads upwardly from each generating-cell through the bottom of the frame 10, as shown at 37, connecting with a pipe 38, leading beyond the end of the device and adapted for attachment preferably by a lever-closed union-joint, as shown, with the distributing-pipe 39. This form of union-joint 10 is of common construction and need not be fully described. The pipe 38 is provided with a valve at 40, so that any disagreeable odors may be avoided when the generator is 15 detached from the distributing system. The water-pipe 28 is also provided with a valve, as shown at 41.

The operation of the generator is as follows: The tank 16 is filled with water, the valve 41 20 being closed. The carbid-baskets are filled and the jars 18 are secured in place. The device as a whole being now located in position for use and attached to the distributing-pipe 39, the valves 41 and 40 are opened, the 25 water finds its way to the cells through the pipes 29<sup>a</sup> 29<sup>b</sup> and enters the cells through the ducts 31 in a small stream, a copious supply, however, being provided immediately back of the plug 31, so that it enters the cells with 30 sufficient rapidity to set up rapid generation of gas. The gas of course finds its way through the pipes 37 38 to the pipe 39, and if the supply is in excess of the requirements the pres-

sure will check the flow of water through the duct 32. There is an advantage in carrying 35 the water-pipes below the point of discharge into the cells, as the automatic regulation is more efficient when the gas-pressure may be applied to the upper surface of the water.

There is an advantage in using a plurality 40 of generating-cells, as thereby the generation may be less rapid in each cell, and as a result the heat developed is less troublesome than when it is all developed at a single place, as is the case when but a single large gener- 45 ating-cell is used.

I claim as my invention—

A portable acetylene-generator comprising a frame, a water-tank supported by the frame, a generating-cell cap fixed to the frame below 50 the water-tank, a cell in jar form, means for detachably securing the cell to the cap, a reticulated carbid-basket within the cell and spaced apart therefrom at the top, bottom and sides, a water-pipe leading from the tank 55 to the cell and entering the latter through the cap, such pipe extending below the cap intermediate of its ends, a check-valve in the depressed portion of the water-pipe, and a gas-pipe leading from the cell and being adapted 60 for attachment to a gas-distributing system.

JOHN A. MOSHER.

In presence of—

PAUL CARPENTER,  
LOUIS K. GILLSON.