

No. 631,213.

Patented Aug. 15, 1899.

J. W. HOSLER & C. F. PRESSLER.

ACETYLENE GAS MACHINE.

(Application filed Oct. 10, 1898.)

(No Model.)

Fig. 1.

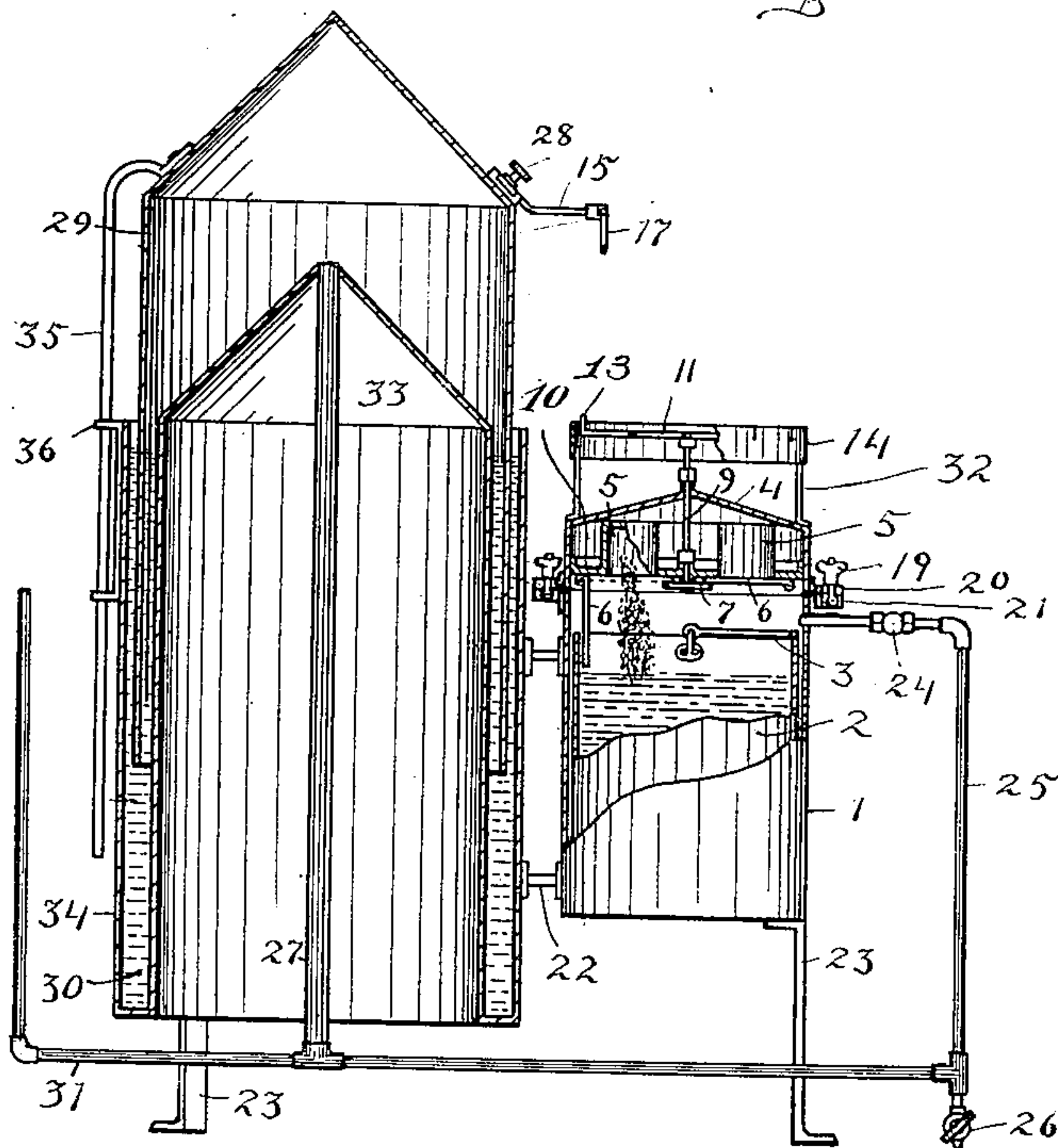


Fig. 2.

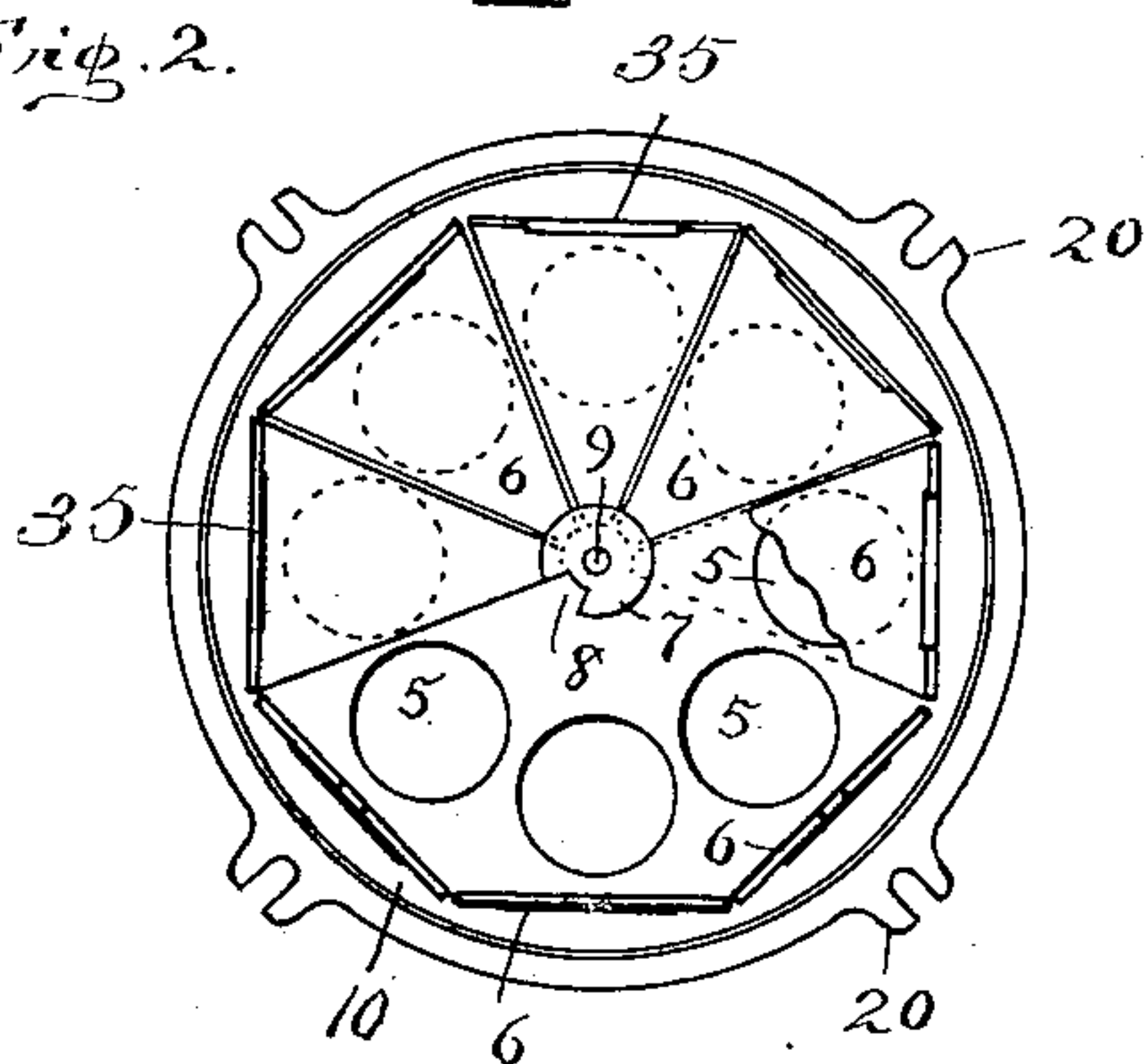


Fig. 3.

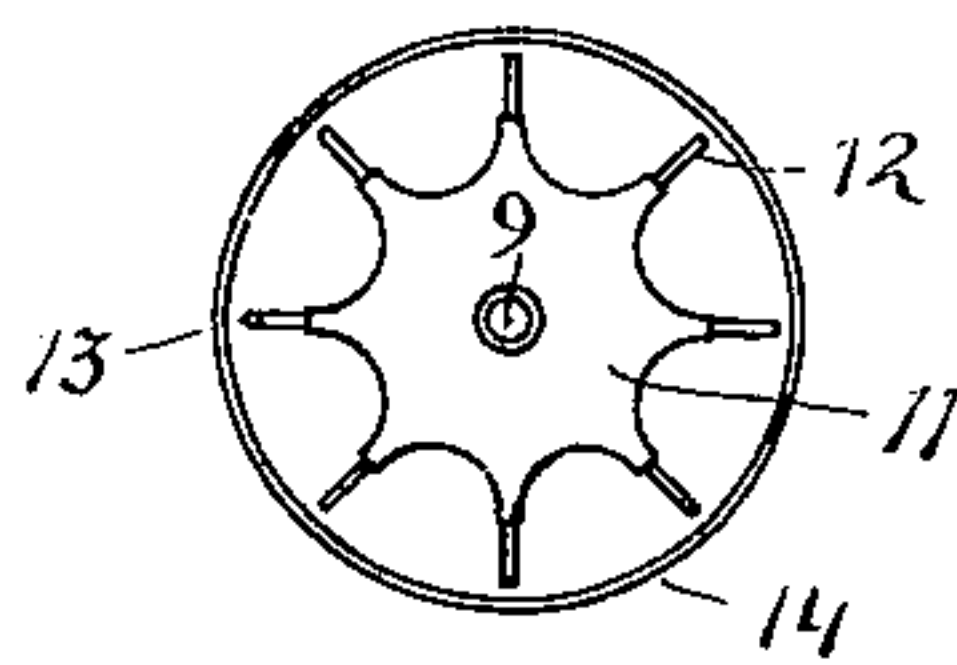
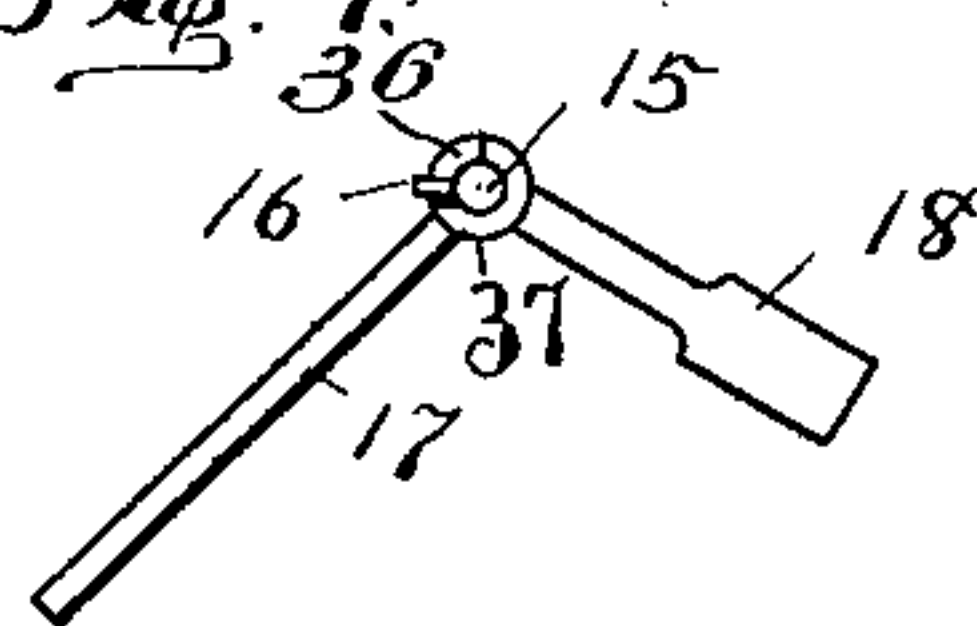


Fig. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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PLACE.

ACETYLENE-GAS MACHINE.

SPECIFICATION forming part of Letters Patent No. 631,213, dated August 15, 1899.

Application filed October 10, 1898. Serial No. 693,080. (No model.)

To all whom it may concern:

Be it known that we, JOHN WILLIAM HOSLER and CHARLES FRED PRESSLER, citizens of the United States, residing at Fort Wayne, in the county of Allen and State of Indiana, have invented certain new and useful Improvements in Acetylene-Gas Machines; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in acetylene-gas machines wherein a series of charges of calcium carbide are automatically discharged in succession at intervals into a reservoir of fluid; and the object of the improvement is to provide automatic means for intermittently discharging prearranged charges of calcium carbide into the immersing fluid. This object is accomplished by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section showing the general arrangement of parts. Fig. 2 is a bottom plan of the magazine, showing several of the trap-lids opened. Fig. 3 is a plan showing the operating-spider, and Fig. 4 is a side view of the trip-lever.

Similar numerals of reference indicate corresponding parts throughout the several views.

Referring to the drawings, 1 is the generating-tank.

2 is a removable bucket having the bail 3.

The magazine consists in the cover 4, which fits upon the top of the tank 1 and is held in place by means of suitable bolts and thumb-nuts 19. Within the cover 4 is the supporting-plate 10, to which are secured an annular series of inverted chambers 5. To the bottom of the plate 10 are secured, by means of hinges 35, a number of lids 6, which fit over the open ends of said chambers, respectively. These lids are hinged at their outer edges and when closed the inner ends swing toward a common center, where they are engaged, respectively, and held in place by the

disk 7. The said disk is mounted upon the lower end of the shaft 9 and has a recess 8 in its periphery, which corresponds in shape with the inner ends of the lids 6 and is of a size sufficient to admit the passage of the ends of said lids, respectively. Upon the top of the shaft 9 is mounted the spider 11, with radial arms 12, corresponding in relative position and number with that of the lids 6. One of said arms has a vertical extension 13, which serves as an indicator and corresponds in position with the recess 8 of the disk 7 relative to the shaft 9. The scale 14 has indicating characters marked thereupon corresponding in number and position with the chambers 6. The extension 13 passes along the scale as the spider 11 is revolved, and by its position relative to the scale indicates the number and position of the lids 6 which have been released and the number of charges remaining intact. This scale is held in place by standards 32, which surmount the cover 4. The scale also serves as a guard for the spider.

The sealing-tank consists of a reservoir 34, containing the sealing fluid, (water,) and a cylindrical shell 33, having a closed top and an open bottom, which extends through the bottom of the reservoir 34, thus confining the sealing fluid within the annular space 30.

The gas-holder 29 consists of a shell having a closed top and open bottom. The lower part of said holder fits loosely in the annular space 30 of the sealing-tank and is adapted to rise and retract as the supply of gas requires. A guide-rod 38 is secured at its upper unturned end to said holder and extends downward loosely through the ear 39, which is secured to the outside of the sealing-tank. This serves to prevent said holder from turning laterally. The generating-tank 1 is secured to the side of the sealing-tank 34 by the studs 22, and together they are mounted upon suitable standards or legs 23. The arm 15 is secured to the holder 29 by means of a thumb-nut 28 and extends horizontally in a plane above the spider 11. Upon the end of the arm 15 is movably secured the hub 37, from which the trip-lever 17 extends in a depending angle of about forty-five degrees. The hub 37 has a lateral slot 36, into which extends a pin

16, which is rigidly fixed in the arm 15, thus allowing the hub and lever to move. The lever 18 extends from the hub at right angles to the lever 17 and is enlarged or weighted at its end, so as to hold the lever 17 in normal position. When the holder 29 moves downward, the lever 17 engages one of the spider-arms 12, which is moved thereby, and as said holder rises the said lever trips past the succeeding spider-arm without moving the same.

The gas-pipe 25 leads from the generating-tank 1 at a point above the bucket 2 and has a check-valve 24, which prevents retraction. The said pipe extends downward to a drip-valve 26 and connects with the pressure-pipe 27 and supply-pipe 31. The said pressure-pipe extends upward through the top of the shell 33 and opens into the holder 29.

In operating the machine the cover 4 is removed and the bucket 2 is filled with the generating fluid (water) and replaced in position within the tank 1. Assuming the cover 4 to be inverted and the lids 6 to be open, a quantity of calcium carbide is placed into each of these several chambers 5. The lids 6 are dropped with their inner ends resting upon the disk 7, then by revolving the spider 11 the said disk revolves, and as the recess 8 comes under the ends of the lids in succession the said lids gravitate through said recess. By setting the disk so that the recess does not register with any one of said lids all of said lids will be held in place by said disk and prevented from opening when the cover 4 is turned over in its former position. The cover 4 is then replaced and secured in position upon the tank 1. The space 30 is then filled with the sealing fluid (water) and the machine is ready for use. By giving the spider 11 a slight turn, so that the recess 8 will allow one of the lids 6 to drop open, the carbide contained in the corresponding chambers will gravitate therefrom and plunge into the bucket of water beneath and the resultant gas will pass from the tank 1 through the pipe 25. The charge of carbide in each chamber is designed to be sufficient to afford a greater quantity of gas than will be required for immediate use, and the superfluous gas passes into the holder 29 through the pipe 27 and lifting said holder accordingly. As the gas is allowed to pass through the supply-pipe the holder gravitates and expels the gas contained therein. As the holder 29 moves to its lower position the lever 17 en-

gages one of the arms 12, thus turning the spider 11, and consequently releasing the next lid 6 in turn, which allows the carbide in the corresponding chambers to discharge as before. The operation thus described is repeated until all the chambers in the series have been emptied.

The carbide may be placed in packets of the proper size to loosely fit in the chambers 5. When thus prepared, the packets containing the carbide fall from the chambers when the corresponding lids are released.

Having described the invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In an acetylene-gas machine, a generating-tank containing a removable vessel of fluid; a cover mounted over said vessel and secured upon said tank; a stationary series of chambers having open bottoms; an annular series of lids, hinged at their outer ends and being adapted to cover the bottoms of said chambers respectively; a revoluble disk adapted to engage and hold said lids in closed position, the said disk having a recess corresponding in shape with the engaged ends of said lids, through which said ends are released, and means in connection with said disk for actuating the same, substantially as shown and described.

2. In an acetylene-gas machine, a generating-tank containing a fluid; a cover secured upon said tank, and having a stationary annular series of chambers; an annular series of hinged lids covering the open bottoms of said chambers; a disk having a recess, mounted upon a revoluble shaft; the said shaft extending to the exterior of said cover and having mounted thereupon a spider having radial arms; and a vertically-movable gas-holder arranged in juxtaposition with said generating-tank, and having in connection therewith a trip-lever adapted to engage the arms of said spider severally and in succession, and thereby turn said shaft when said gas-holder is moved downward, substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN WM. HOSLER.

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Witnesses:

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