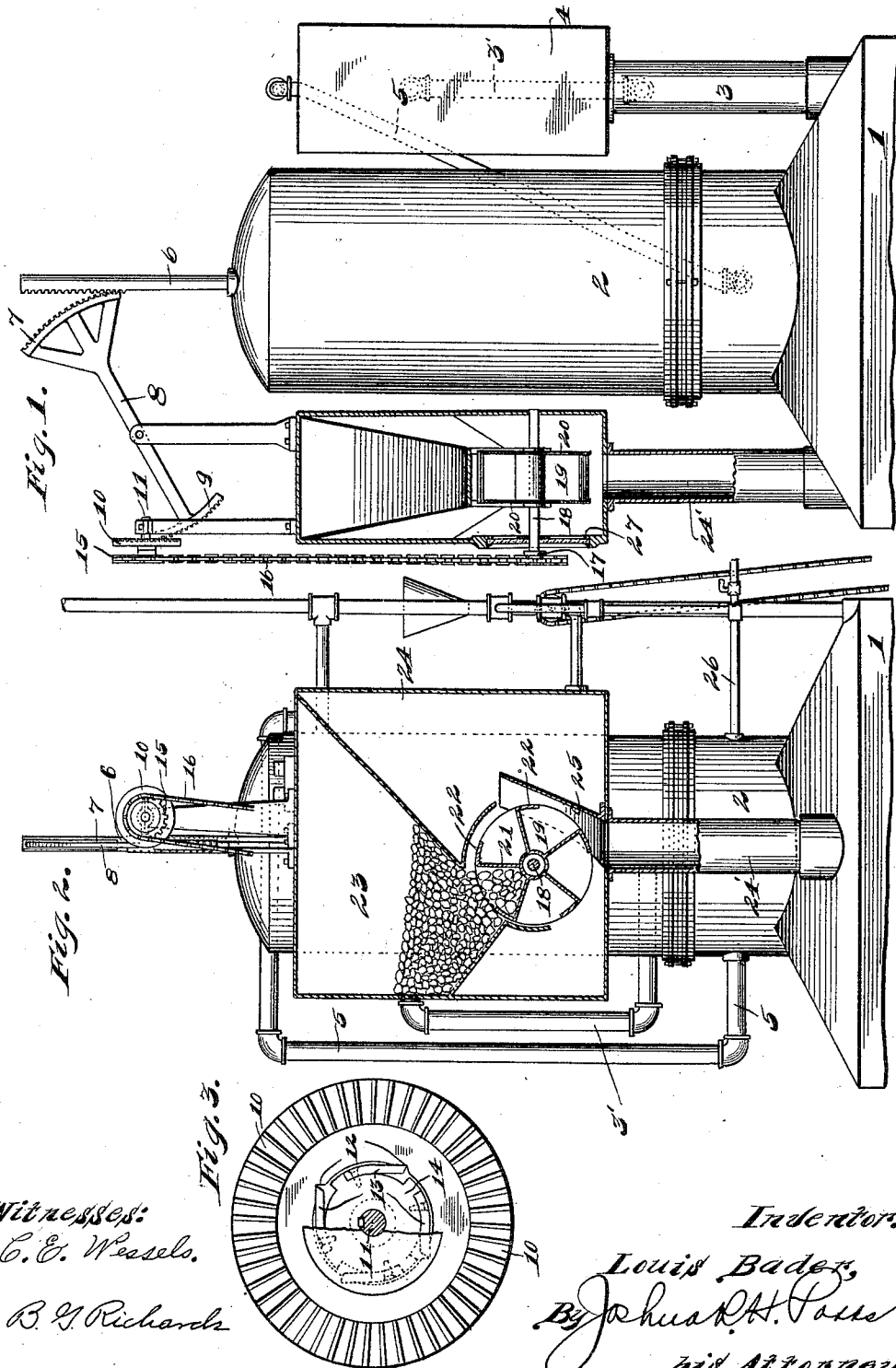


L. BADER.
 MEANS FOR FEEDING CARBID TO ACETYLENE GAS GENERATORS.
 APPLICATION FILED JUNE 5, 1911.

1,049,321.

Patented Dec. 31, 1912.



Witnesses:

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UNITED STATES PATENT OFFICE.

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MEANS FOR FEEDING CARBID TO ACETYLENE-GAS GENERATORS.

1,049,321.

Specification of Letters Patent.

Patented Dec. 31, 1912.

Original application filed November 25, 1910, Serial No. 594,053. Divided and this application filed June 5, 1911. Serial No. 631,272.

To all whom it may concern:

Be it known that I, LOUIS BADER, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Means for Feeding Carbide to Acetylene-Gas Generators, of which the following is a specification.

My invention relates to improvements in acetylene gas generators and more especially to means for feeding carbide to said generators, this application being a division of my prior application for improvements in acetylene gas generators filed November 25th, 1910, Serial No. 594,053.

The object of the invention is to provide improved feeding means for supplying the carbide to the generator as needed.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawing forming a part of this specification and in which,

Figure 1 is a side elevation of the upper portion of a gas generator embodying my invention, and showing the carbide holder in section, Fig. 2, an elevation of the same taken at right angles to the elevation shown in Fig. 1 and also showing the carbide holder in section, and Fig. 3, an enlarged detail view of the crown gear employed in the device.

The preferred form of construction as illustrated in the drawing comprises a gas generator 1 which may be of any suitable or desired construction. A tank 2 containing a gasometer is mounted upon the top of generator 1 and a discharge pipe 3 also leads from the top of said generator. A gas washing tank 4 is mounted upon the top of pipe 3 and is placed in communication with said pipe by means of a pipe 3'. A pipe 5 leads from the top of the gas cleanser to the bottom of the gasometer 2 as shown. A reciprocating rack bar 6 projects from the top of gasometer 2 and is arranged to be moved upwardly by increase of gas pressure in the gasometer. The specific forms of the cleansing tank and the gasometer constitute the subject matter of my copending appli-

cations and need no further illustration or description here.

Rack bar 6 engages a segmental gear 7 carried by one end of a lever 8 which carries at its other end another segmental gear 9 meshing with a crown gear 10. Crown gear 10 is loosely mounted on a stud shaft 11 and is provided with ratchet teeth 12 in its inner periphery as shown in Fig. 3. Spring pawls 13 are secured to a disk 14 which in turn is keyed to shaft 11, said pawls being arranged to cooperate with ratchet teeth 12 to permit rotation of crown gear 10 on shaft 11 when rack bar 6 rises under the influence of pressure in gasometer 2, but to cause operative connection between said crown gear and said shaft when rack bar 6 descends as the result of a decrease in pressure in gasometer 2. Stud shaft 11 carries a sprocket wheel 15 which is connected by means of a sprocket chain 16 with another sprocket wheel 17 carried by the outer end of a shaft 18. Shaft 18 carries a feed wheel 19 which consists of end-disks 20 and partitions 21 arranged between said end-disks. At their outer ends partitions 21 are provided with flanges 22 which serve to temporarily retain carbide in the compartments formed by said partitions. Wheel 19 is arranged at the discharge opening of a hopper 23 provided in the carbide holder 24 and is adapted to discharge into a pipe 24' leading to the generator 1. A deflector plate 25 is arranged about the upper end of pipe 24' to direct the discharge from wheel 19 into pipe 24'. A service pipe 26 is connected with gasometer 2 and a glass sight plate 27 is provided in the wall of carbide holder 24 so as to permit a view of the feeding mechanism.

By the construction above set forth it will be observed that a decrease of pressure in gasometer 2, causing descent of rack bar 6, will cause rotation of crown gear 10 and shaft 11 thus effecting feed of carbide into generator 1. The addition of carbide to generator 1 will cause an increase in pressure in the gasometer and thus cause elevation of rack bar 6, which, owing to the operation of the pawls 13 and ratchet teeth 12 will not affect the feed wheel 19. Thus it will be seen that the gas pressure in the gasometer will be maintained practically constant au-

tomatically. The specific construction for effecting this result will be found to be efficient and durable in operation.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I therefore do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having described my invention what I claim as new and desire to secure by Letters Patent is:

1. The combination of a reciprocatory rack; a lever bar pivotally mounted intermediate its ends and having a segmental gear at each end, the gear at one end meshing with said rack; a crown gear meshing with the other segmental gear; and means for converting oscillatory movement of said crown gear into continuous movement, substantially as described.

2. The combination of a reciprocatory rack; a lever bar pivotally mounted intermediate its ends and having a segmental

gear at each end; the gear at one end meshing with said rack; a driven shaft; a crown gear loosely mounted on said shaft and meshing with the other segmental gear; and a pawl and ratchet connection between said crown gear and said shaft, substantially as described.

3. The combination of a reciprocatory rack; a lever fulcrumed intermediate its ends having a segmental gear at each end; the gear at one end meshing with said rack; a driven shaft; a crown gear loosely mounted on said shaft and meshing with the other segmental gear, said crown gear being provided with internal ratchet teeth; a disk having a plurality of recesses in its periphery and arranged within said ratchet teeth; flexible spring pawls in said recesses adapted to engage said ratchet teeth; and an operative connection with said disk, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LOUIS BADER.

Witnesses:

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