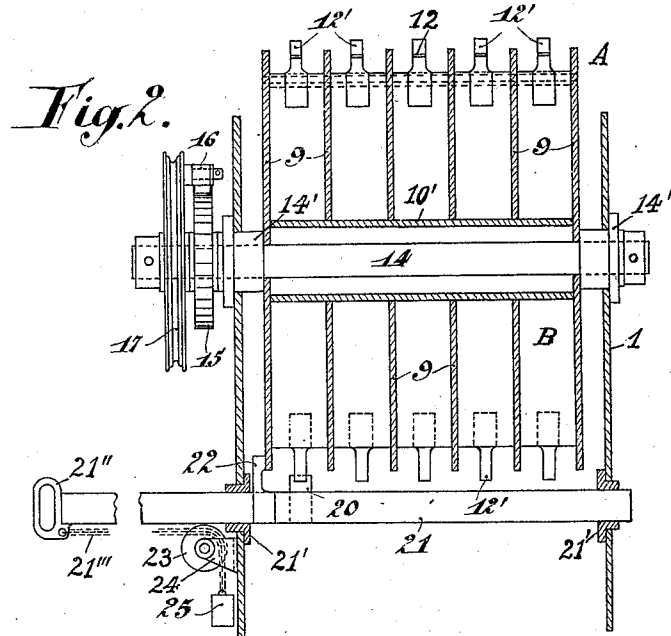
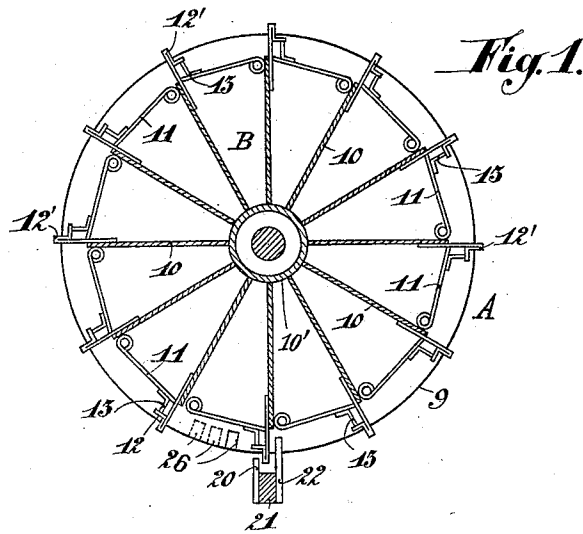


No. 823,677.

PATENTED JUNE 19, 1906.

E. FONBONNE.
ACETYLENE GENERATOR.
APPLICATION FILED NOV. 16, 1905.

2 SHEETS—SHEET 1.



Witnesses:
F. G. Harder.
Jos. Schmitzler.

Inventor:
Eugène Fonbonne,
per Martin Schmitz,
Attorney.

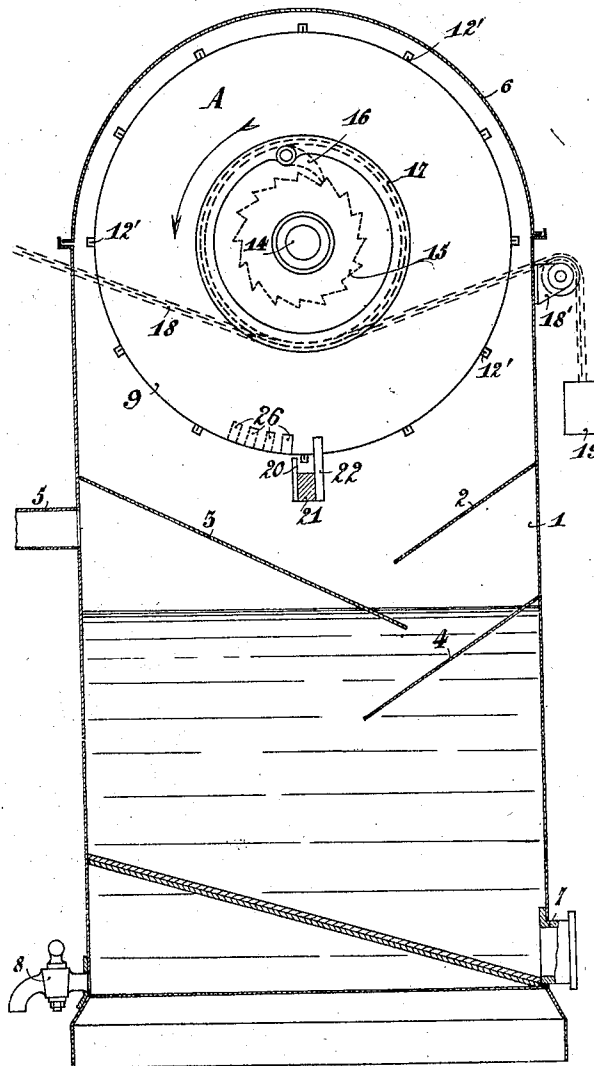
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2 SHEETS—SHEET 2.

Fig. 5.



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UNITED STATES PATENT OFFICE.

EUGÈNE FONBONNE, OF ANTWERP, BELGIUM.

ACETYLENE-GENERATOR.

No. 823,677.

Specification of Letters Patent.

Patented June 19, 1906.

Application filed November 16, 1905. Serial No. 287,568.

To all whom it may concern:

Be it known that I, EUGÈNE FONBONNE, a subject of the King of Belgium, residing at Antwerp, Caserne St. Georges, in the Kingdom of Belgium, have invented certain new and useful Improvements in Acetylene-Generators; and I do hereby 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.

My present invention relates to acetylene-generators, and particularly to the carbid-feeding device thereof which is provided with a compartment-drum indirectly rotated by a sinking gasometer-bell, whereby the covers of the numerous compartments arranged in circumferential rows and formed by radial division-walls and disks arranged at right angles to said walls are successively opened while the locking means of said covers are striking against a pin. To move this striking-pin periodically from one row of compartments to another, each of said disks but the last two is provided with a circumferential slot, through which a nose of a weight-controlled slide-bar passes after one row of compartments has been emptied, and thus permits the pin to come into contact with the locking means of the compartments of the next row in order to open them successively too, after which the nose of the slide-bar passes through the circumferential slot of the next disk, and so on until all the compartments are emptied.

In the accompanying drawings, Figure 1 is a cross-section of the carbid-feeding device. Fig. 2 is a longitudinal sectional view of the feeding device and parts of the acetylene-generator. Fig. 3 is a vertical sectional view of the generator with the compartment-drum.

In the acetylene-generator 1 the three sloping partitions 2, 3, and 4 are arranged to prevent the generated gases to ascend to the upper part of the generator, but to compel them to collect in the space lying below the partition 3, whence they enter the pipe 5 to be conducted to the gasometer-bell. (Not shown.) The cap 6 gives free access to the interior of the generator 1, which is also provided with a hand-hole 7 and a cock 8 for cleaning purposes.

The drum A contains the compartments B for the reception of the carbid and consists of a number of disks 9, between which radial

division-walls 10 are arranged, whose inner edges bear against a tube 10', held between the two end disks 9. Each of said compartments thus formed holds a certain quantity of carbid and is provided with a hinged cover 11, which is kept closed by the lateral projection 12 of a spring 12', attached to one of the radial division-walls 10. These projections 12 rest upon the pins 13 of the covers 11 and keep the latter closed until the springs 12' are sufficiently bent to give the pins 13 free. The drum A thus formed is keyed to the shaft 14, which is journaled in the bearings 14', supported by the sides of the generator 1. To the projecting end of the shaft 14 a ratchet-wheel 15 is keyed, which cooperates with the pawl 16 of the loosely-mounted chain-wheel 17.

The chain 18, attached with one of its ends to the gasometer-bell, (not shown,) is held in contact with the under side of the chain-wheel 17, passes upward over the bracket 18', and carries at its other end a weight 19, so that the chain 18 is always kept taut, no matter whether the gasometer-bell ascends or descends. When the latter ascends, the chain-wheel 17 rotates in the direction indicated by the arrow shown in Fig. 3, during which operation the drum, with its filled compartments B, cannot be rotated, since the pawl 16 slides backward over the teeth of said ratchet-wheel 15. When, however, the gas contained in the gasometer-bell is quicker consumed than new gas can be generated in the generator 1, and therefore the gasometer-bell sinks, the chain 18 will be drawn toward the left, and thus make the chain-wheel 17 rotate in the opposite direction, whereby the pawl 16 bears against one of the teeth of the ratchet-wheel 15 and compels the latter and the drum A, with all its filled compartments B, to rotate.

To open the lowermost compartment B of a row of compartments in order to set its contents free to drop into the water contained in the lower part of the generator and serve for the generation of new acetylene, the spring 12' of said compartment comes into contact with a pin or projection 20, secured to a slide-bar 21, which retains the spring 12' during the advance of the circumference of the drum A until the contents of the compartment to which this spring belongs have dropped into the water below.

The slide-bar 21 carries the pin 20 and is guided in the eyes 21', secured to the sides of

the generator 1, by which bar the nose 22 is carried too. To the handle 21" of the slide-bar 21 is attached one end of a chain 21"', which is led over the guide-disk 23, journaled in a bracket 24 of the generator 1 and carries on its other end a weight 25. By means of this arrangement the nose 22 is kept in contact with the outer disk 9, and thus obliges the pin 20 to retain its position shown in Fig. 2 until all the compartments lying between the first two disks have been opened and their contents employed for the generation of new acetylene.

To bring the pin 20 into a position to open the covers of the compartments lying between the second and third disk of the drum A, the first disk is provided with a circumferential slot 26, through which the nose 22 is drawn under the influence of the weight 25 as soon as the drum A has completed one revolution, whereby the weight 25 will draw the slide-bar 21 forward until the nose 22 comes into contact with the second disk 9. The pin 20 is now in a position to contact successively with the springs 12 of the compartments of the second row and will remain there until every compartment of this row has been emptied, after which the nose 22 passes through the slot 26 of the second disk 9 to permit the pin 20 to take up the necessary position for opening the covers of the third row of compartments, and so on, until all compartments B of the drum A have been emptied.

To prevent the nose 22 from passing at once through all the slots 26 of the slotted disks 9, these slots are arranged out of line, as shown in Figs. 1 and 3, to make the nose 22 strike the next disk after it has passed the slot of the disk which prevented its advance till this very moment.

After all compartments have been emptied the slide-bar 21 is pushed back and the drum A sufficiently rotated to let the nose 22 pass through the slots of the several disks until it has reached the outer side of the end disk to be pressed anew against it under the influence of the weight 25. The compartments are refilled after the cap 6 has been removed, whereupon the cycle of operations may be repeated.

I claim—

1. A carbide-feeding device for acetylene-generators comprising a rotatable drum, compartments arranged in a circumferential row or rows in said drum, a cover for each compartment, a locking device for each cover, disks partly forming the walls of said compartments and all but the last two provided

with a radial slot in their projecting circumference, a slide-bar arranged below said drum, means on said slide-bar to contact successively with the locking devices of said covers to open the latter, a nose on said slide-bar to pass successively through said slots after having been kept in contact with each of said slotted disks during one revolution of said drum, and means for advancing said slide-bar when said nose registers with any of said circumferential slots.

2. A carbide-feeding device for acetylene-generators comprising a rotatable drum, compartments arranged in a circumferential row or rows in said drum, a hinged cover for each compartment, an elastic locking device for each cover, disks partly forming the walls of said compartments and all but the last two provided with a radial slot in their projecting circumference, a drum-shaft, driving means thereon to rotate said drum when driven in one direction and leave said drum stationary when driven in the opposite direction, a slide-bar arranged beneath said drum, means on said slide-bar to contact successively with said elastic locking devices to open said covers, a nose on said slide-bar to pass after each revolution of said drum through one of said radial disk-slots, and means for keeping said nose successively in contact with said slotted disks and advance said slide-bar when said nose registers with any one of said slots.

3. The combination with an acetylene-generator of a rotatable drum, compartments arranged therein, a hinged cover for each compartment, locking means for each cover, a drum-shaft, driving means on said drum-shaft to rotate said drum when rotated in one direction and leave it stationary when rotated in the opposite direction, disks projecting with their circumference over said covers and all but the last two provided with a radial slot, a weight-controlled slide-bar arranged beneath and adjacent to said drum, a contact-pin on said slide-bar for opening said covers, and a nose on said slide-bar capable of passing through any one of said radial disk-slots after the adjacent row of compartments lying in the direction of travel of said slide-bar has been emptied.

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

EUGÈNE FONBONNE.

Witnesses:

F. GRASSER,
GREGORY PHELAN.