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ACETYLENE GAS GENERATOR.

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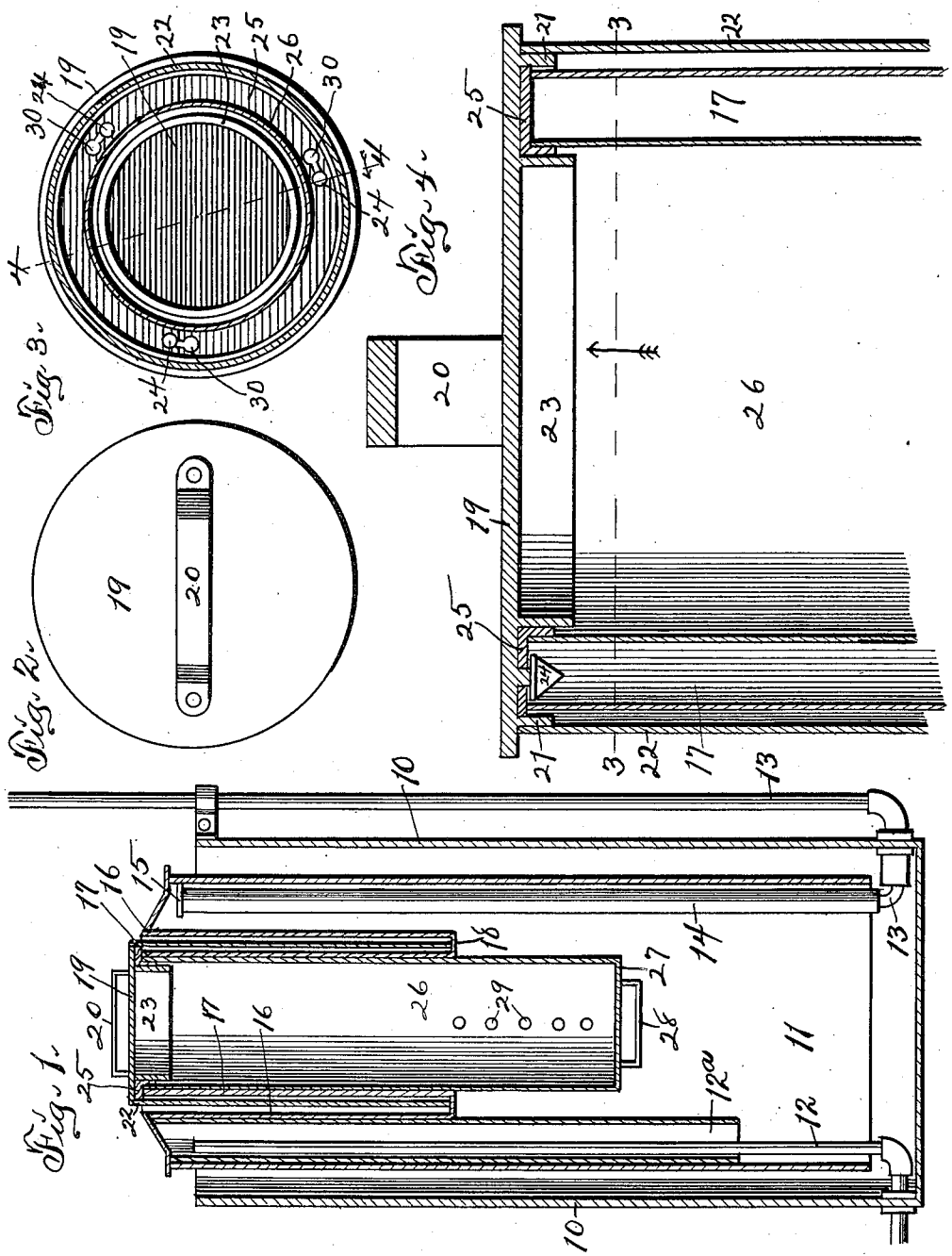
1,036,042.

Patented Aug. 20, 1912.



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UNITED STATES PATENT OFFICE.

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ACETYLENE-GAS GENERATOR.

1,036,042. Specification of Letters Patent. Patented Aug. 20, 1912.

Application filed November 8, 1911. Serial No. 659,569.

To all whom it may concern:

Be it known that I, WILLIAM E. WALTZ, citizen of the United States of America, and resident of Des Moines, Polk county, Iowa, have invented a new and useful Acetylene-Gas Generator, of which the following is a specification.

The object of this invention is to provide an improved construction for acetylene gas generators.

A further object of this invention is to provide an improved construction for the cartridge of an acetylene gas generator.

My invention consists in the construction, arrangement and combination of elements hereinafter set forth, pointed out in my claim and illustrated by the accompanying drawing, in which—

Figure 1 is a vertical section centrally of the complete device, some of the details being omitted to avoid confusion. Fig. 2 is a plan of the cartridge removed from the machine. Fig. 3 is an inverted cross-section of the cartridge on the indicated line 3—3 of Fig. 4. Fig. 4 is a vertical section on the indicated line 4—4 of Fig. 3. Figs. 2 and 3 are on an enlarged scale relative to Fig. 1 and Fig. 4 is on an enlarged scale relative to Figs. 2 and 3.

In the construction of the device as shown the numeral 10 designates a tank and 11 a gas bell mounted within and arranged for free vertical movement relative to said tank. A safety or blow-off pipe 12 is mounted through the lower portion of the tank 10 and extends upward within and terminates with an open upper end in a cap 12^a in the gas bell. The cap 12^a is preferably secured to the inside of the bell hereinafter described, and is arranged to telescope freely with the pipe 12. The cap 12^a is also arranged to normally extend into the water in the tank, but when the bell rises to a certain point, the lower open end of the cap stands above the water in the tank and permits the escape of gas. A service pipe 13 is mounted through the lower portion of the tank 10 and communicates at its inner end with a gas settling and purifying chamber 14, and said chamber rises within the gas bell 11 and terminates with a perforated cap 15 in the top of said bell. An aperture is formed centrally of the top of the gas bell 11 and a well, formed of concentric walls 16, 17 and an annular bottom 18 soldered together, is mounted through said aperture and suspended in said bell by soldering the upper margin of the wall 16 to the top of the bell. The well is adapted to contain water or other sealing liquid to prevent the escape of gas. The cartridge is constructed in two parts, *i. e.*, a cap and a carbid vessel or basket. The cap preferably is constructed with a top 19 made of metal by molding and provided with a handle 20. The top 19 is formed with a downwardly extending rim or flange 21 to which a sheet metal wall 22 is soldered. The wall 22 depends within the well and is sealed at its lower end by the liquid in said well. The top 19 also is formed with an annular downwardly extending flange 23 within and concentric with and spaced from the flange 21. A plurality of headed studs 24, in this instance three in number, are formed on and extend downward from the top 19 between the flanges 21 and 23, and said studs preferably are formed with conical heads. The basket preferably is formed with a top plate 25 of annular form and angular in cross-section, made of metal by molding and a wall 26 of sheet metal embracing and soldered at its upper end to the depending portion of said plate, and a bottom 27 soldered to and closing the lower end of the wall and provided with a handle 28. Ports 29 are formed in the wall 26 to admit water to the interior of the basket. The horizontal portion of the plate 25 is formed with a plurality of keyhole slots 30, in this instance three in number and spaced alike with and adapted to receive the studs 24. The top plate 25 is of such diameter as to be received within the space between the flanges 21 and 23 and rests on the upper end of the wall 17 of the well and the cap is locked to the basket by torsional and longitudinal adjustment of the cap and basket by manual operation in such manner as to engage the headed studs 24 in the keyhole slots 30. The conical form of the headed studs 30 facilitates introduction of said studs to said slots.

In practical use the cartridge is removed entire, by vertical manual lift, from the well and manipulated by one hand on each of the handles 20 and 28 to release the studs 24 from the slots 30, after which the basket is emptied of sludge and ashes and recharged. Then the basket and cap are re-connected and the cartridge is replaced entire in the

well, in which position the basket depends within the water in the tank.

I claim as my invention—

In an acetylene gas generator, a cartridge comprising a cap formed with a top having integral annular spaced flanges and a wall depending from one of said flanges and conically-headed studs depending from said top between said flanges, and a basket formed with a top plate having keyhole slots adapted to receive said studs and a wall depending from said top plate and a bottom rigidly mounted on said wall, said wall perforated in its lower portion, said top and bottom formed with separate handles.

Signed by me at Des Moines, Iowa, this eighth day of November, 1910.

WILLIAM E. WALTZ.

Witnesses:
S. C. SWEET,
EARL M. SINCLAIR.