E. M. ROSENBLUTH.

ACETYLENE GAS GENERATOR.

APPLICATION FILED JULY 19, 1909.

1,025,648.

Patented May 7, 1912.

3 SHEETS—SHEET 1.

FIG. I.

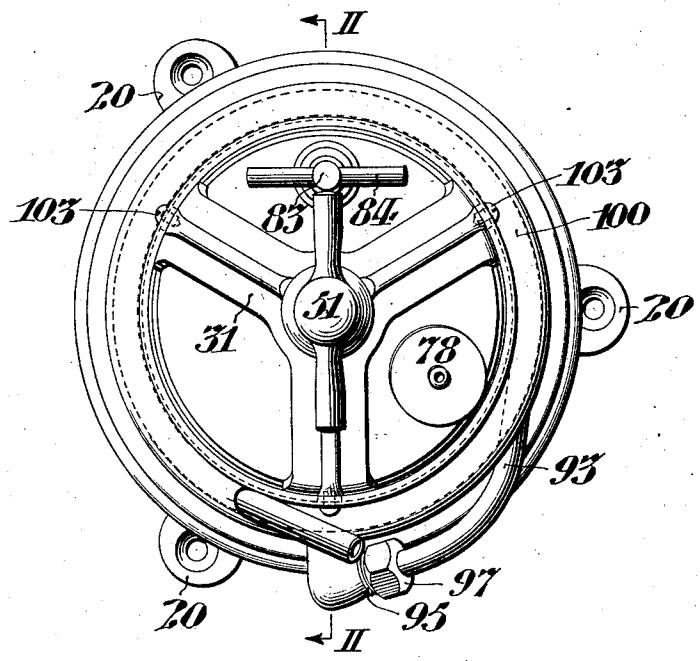


FIG. V.

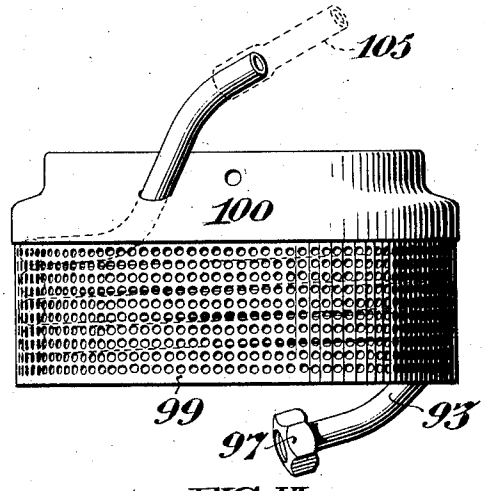
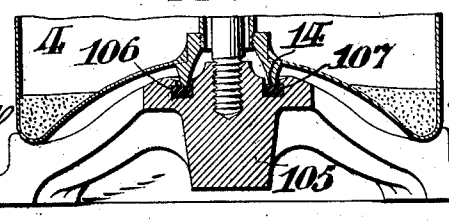


FIG. VI.



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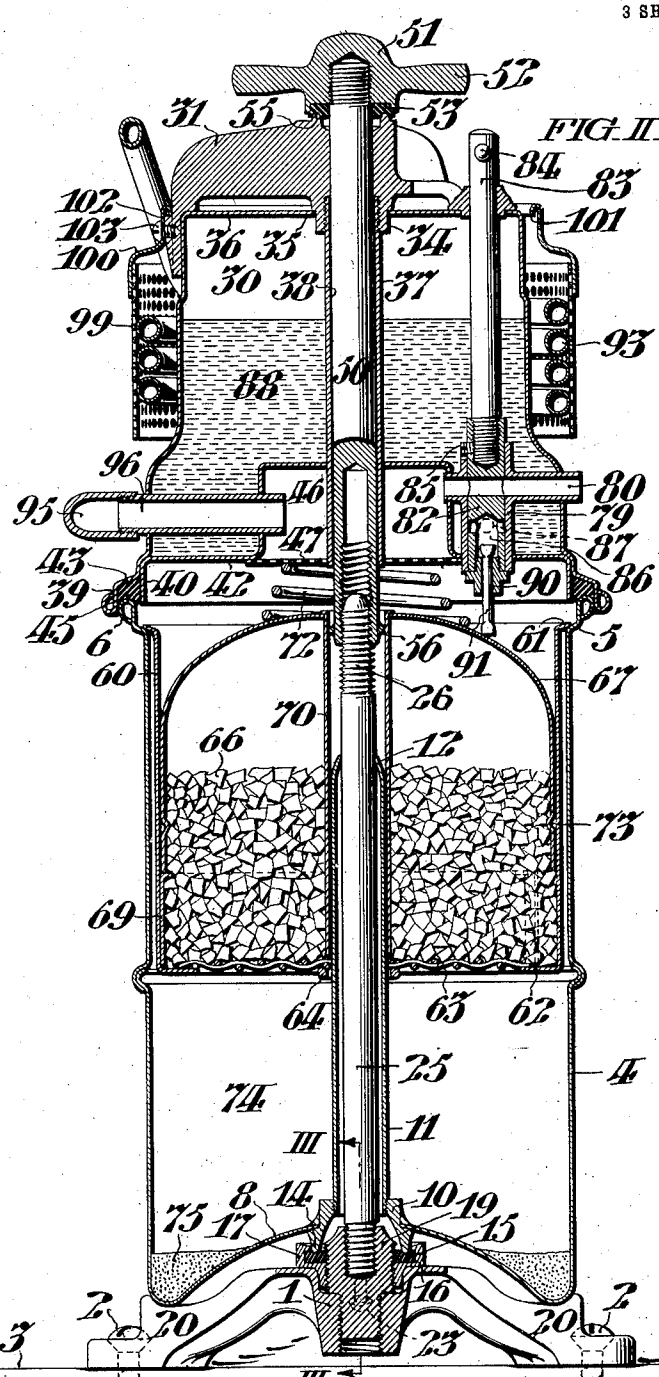
3 SHEETS—SHEET 2.

FIG. II.



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3 SHEETS—SHEET 3.

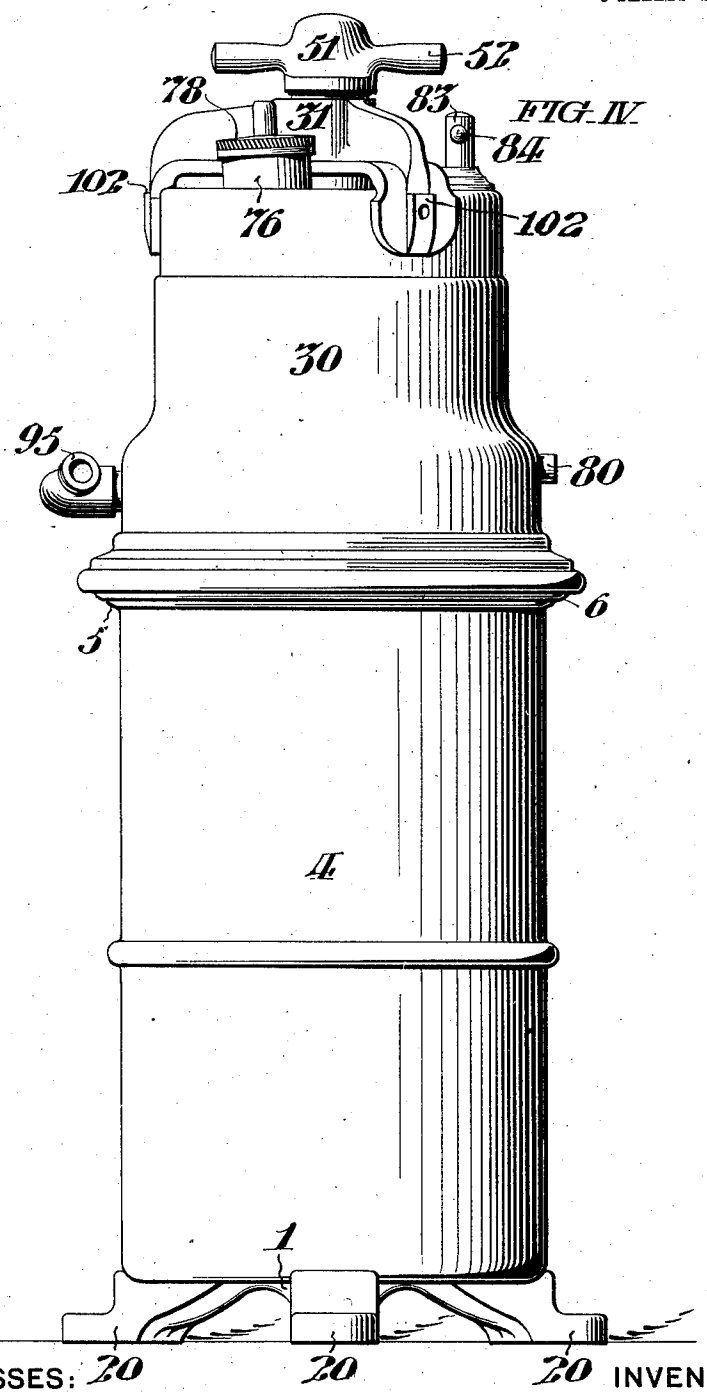

FIG. IV.

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UNITED STATES PATENT OFFICE.

EDWIN M. ROSENBLUTH, OF PHILADELPHIA, PENNSYLVANIA.

ACETYLENE-GAS GENERATOR.

1,025,648. Specification of Letters Patent. Patented May 7, 1912.

Application filed July 19, 1909. Serial No. 508,369.

To all whom it may concern:

Be it known that I, EDWIN M. ROSENBLUTH, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in Aceylene-Gas Generators, whereof the following is a specification, reference being had to the accompanying drawings.

My invention relates to a gas generator of the type described in Letters Patent #903,507 granted to me under date of November 10, 1908, and provides such a generator with a removable condensing coil which is conveniently inclosed within a foraminous cylindrical casing arranged to surround the water receptacle and be detachably secured thereto.

The acetylene gas generator hereinafter described, is so constructed that its base frame may be permanently located in rigid relation with an automobile, and the carbid casing and water receptacle be rigidly connected therewith and disconnected with respect thereto; such connection and disconnection being effected by rotation of a rod extending centrally in said water receptacle, in threaded engagement with a threaded stem, extending through said carbid casing from said base.

My invention further includes the various novel features of construction and arrangement hereinafter more definitely specified.

In the drawings, Figure I is a plan view of a generator conveniently embodying my improvements. Fig. II is a central vertical sectional view taken on the line II, II in Fig. I. Fig. III is a fragmentary sectional view of the base frame of said generator taken on the line III, III in Fig. II. Fig. IV is a side elevational view of said generator having its condensing coil removed therefrom. Fig. V is a side elevation of the condensing coil *per se*. Fig. VI is a fragmentary sectional view of a modified form of my invention.

In said drawings the generator is provided with a base frame 1, which is arranged to be permanently attached by screws 2 to any convenient supporting means 3, for instance, the running board of an automobile. Said generator includes the carbid casing 4, which is outwardly flared at 5 and has the returned upper edge 6. The concave bottom wall 8 of said carbid casing is provided with a centrally disposed ring 10 which carries the tubular extension 11, projecting upwardly through said casing, and is swaged inwardly at its upper end 12. Said ring 10, is provided with the depending annular flange 14, arranged to engage the rubber gasket 15 to form a gas tight joint between said carbid casing 4 and said base frame 1. Said gasket 15, is seated in the groove 16, in the cup 17, which is in threaded engagement with the boss 19, extending in threaded engagement with said base frame 1. It may be here noted that by rotation of the collar 17 with respect to said boss, the gasket 15 may be raised or lowered to be engaged by the flange 14 to such an extent as to effect the gas tight joint desired, and to permit the bottom edge of said carbid casing 4 to rest upon the feet 20 of said base, as shown in Fig. II. The collar 17 being secured in its adjusted position by the set screw 23, as best shown in Fig. III.

The base 1 is provided with the upwardly extending stem 25, whose threaded upper end 26, terminates substantially even with the upper edge 6 of the carbid casing. Said stem 25 extends through the tubular extension 11, and is closely embraced by its swaged upper end 12.

Superimposed upon the carbid casing 4 is the water receptacle 30, which is provided with the spider frame 31 surrounding its upper region and rigidly secured thereto. Said spider frame 31, has a tubular boss 34, depending through the aperture 35, in the upper wall 36, of said water receptacle, and, the tube 37, which is rigidly secured in the said boss, extends through the water receptacle and forms a central vertical passageway 38 therethrough. The lower edge of the water receptacle 30, includes the depending flange 39, which, with the depending flange 40 of the bottom wall 42 of said receptacle 30, forms the channel 43, holding the rubber gasket 45. Said bottom wall 42 is provided with the central gas dome 46, which extends into said water receptacle 30, and has the foraminous floor 47, secured to said bottom wall 42, and to said tube 37, as shown in Fig. II.

The base frame 1, carbid casing 4, and water receptacle 30, are conveniently joined in gas tight relation by the connecting rod 50, which extends through the passage way 38, and is threaded to engage the threaded

end of the stem 25. Said rod 50, is provided with the head 51, having the wings 52 whereby it may be rotated to engage said threads, and said head is recessed to receive the resilient gasket 53, which tightly engages the annular bead 55, formed upon the spider frame 31, and surrounding the passageway 38, to prevent the escape of gas through the tube 37. The rod 50 is also provided near its lower end with the abutment 56 arranged to permit a limited axial movement of said rod and to engage the lower end of the tube 37, whereby said water receptacle may be carried by the winged head 51 when detached from the carbid casing 4. The carbid receptacle 60, is loosely fitted in said casing 4, and is provided with the outwardly turned flange or lip 61, which rests upon the flared region 5 of said casing 4, whereby said receptacle 60 is supported. The carbid receptacle 60 is also provided with the inwardly turned bottom flange 62, arranged to support the foraminous floor 63, having within the reinforcing ring 64, a central aperture for the stem 25.

As shown in Fig. II, the foraminous floor 63, supports the carbid 66, which is covered by the dome shaped cap 67, loosely fitted in said receptacle 60, and conveniently supported therein by the knee brackets 69. Said cap 67, is provided with a central tube 70, depending below the cylindrical wall of said cap close to the foraminous floor 63, and is conveniently maintained upon the bracket 69, by the coiled spring 72, interposed between said cap, to which it is secured, and the foraminous floor 47, A bead 73, extending around said cap parallel with its lower edge, serves to maintain it cylindriform. The chamber 74, in the carbid casing 4, below the carbid receptacle 60, is arranged to receive ashes 75, which fall through the foraminous floor 63, as shown in Fig. II.

The water receptacle 30 has the inlet 76, which is normally closed by the screw cap 78. Said receptacle is also provided with a valve casing 79, having the outlet 80, arranged to connect the gas dome 46 with the atmosphere. Said outlet is controlled by the valve plug 82, whose stem 83 extends exterior to the water receptacle 30, and is provided with the handle 84, whereby it may be rotated to a limited extent determined by the stop pin 85. Said plug 82, also includes the water passage 86 arranged to register with the water passageway 87 in the casing 79, and thus permit water 88, to pass from the water receptacle 30 to the carbid.

The water passageway 86 leads to a restricted water outlet 90, opening into the carbid receptacle 60, and arranged to direct water onto the dome shaped cap 67, which water flows down between the walls of said cap and carbid receptacle, and is distributed around said cap by the bead 73; from where it flows in a thin film to the carbid 66. Said outlet 90 is conveniently provided with a reciprocatory plunger 91, arranged to restrict the flow of water and may be shifted to free any obstruction which may lodge therein.

The condensing coil 93, which azimuthally encircles the water receptacle 30, in detachable relation therewith, is detachably connected with the threaded nozzle 95 on the pipe 96, leading from the gas dome 46, by the union 97, which is swiveled on the lower end of said coil. The coil 93 is secured within the foraminous cylindrical casing 99, which protects it and permits a free circulation of air in contact therewith. Said foraminous casing 99, is supported by its integral imperforate ring 100, whose inwardly turned edge 101, rests upon the ledges 102, provided on the spider frame 31, and is detachably secured to said spider frame by the screws 103, as best shown in Fig. II. As shown in Fig. V, said coil 93 is arranged to receive the end of a flexible conduit 105, as shown in dotted lines in said figure.

In the form of my invention shown in Fig. VI, the base 105 has the groove 106, to receive the gasket 107, arranged for engagement with the flange 14, of the carbid casing 4.

I do not desire to limit myself to the precise details of construction and arrangement above described, as it is obvious that various modifications may be made therein without departing from the essential features of my invention as defined in the appended claims.

I claim:—

1. In an acetylene gas generator, the combination with a carbid receptacle; of a water receptacle, forming a gas chamber between said receptacles; a detachable condensing coil surrounding said water receptacle, and having its lower end detachably connected with said gas chamber, and its upper end extended to receive a flexible conduit, a foraminous cylindrical casing carrying said condensing coil; and means detachably securing said casing to said generator.

2. In an acetylene gas generator, the combination with a carbid receptacle; of a water receptacle, forming a gas chamber between said receptacles; a nozzle connected with said gas chamber; a detachable condensing coil surrounding said water receptacle; means arranged to detachably connect the lower end of said coil with said nozzle; a foraminous cylindrical casing carrying said coil, arranged to permit the free circulation of air around said coil; and means arranged to detachably secure said foraminous casing to said generator.

3. In an acetylene gas generator, the com-

bination with a carbid receptacle; of a water receptacle, forming a gas chamber between said receptacles, and having a ledge; a nozzle connected with said gas chamber; a condensing coil surrounding said water receptacle, and having a union swiveled at its lower end, whereby it may be detachably connected with said nozzle; a foraminous cylindrical casing carrying said coil and extending exterior thereto, and having its upper edge turned inwardly and supported by said ledge; and means comprising screws, arranged to detachably secure said casing to said generator.

4. In an acetylene gas generator, the combination with a carbid receptacle; of a water receptacle, superimposed upon said receptacle, and forming a gas chamber between said receptacles; a detachable condensing coil surrounding said water receptacle, and detachably connected at its lower end with said gas chamber, and having its upper end extended to receive a flexible conduit; a foraminous casing carrying said coil, and extending exterior thereto, detachably secured to said water receptacle; and a valve having opposed outlets respectively connected with said gas chamber and with the atmosphere.

5. An acetylene gas generator including a carbid casing, a separable water receptacle, and a detachable base frame; a stem in said base frame, extending upwardly through said carbid casing, and having a threaded upper end; a connecting rod depending through the water receptacle, and provided with a head whereby it may be rotated to engage said threaded stem, and thereby rigidly secure in gas tight relation, the parts forming said generator.

6. An acetylene gas generator, including a base frame arranged to be permanently secured to a suitable supporting means; a carbid casing detachable from said base frame, a water receptacle detachably mounted on said carbid casing, and forming a gas chamber between said receptacle and said carbid casing; means connecting said base frame and water receptacle through said carbid casing, arranged to secure all of said members in gas tight relation; a detachable condensing coil, detachably connected with said gas chamber at its lower end, and having its upper end arranged to receive a flexible conduit.

7. In an acetylene gas generator, the combination with a base frame, arranged to be permanently secured to a convenient supporting means; of a vertically adjustable cup, having a gasket, carried by said base frame; a stem extending upwardly from said base frame, through said gasket, and having a threaded upper end; a carbid casing provided with a ring in its bottom wall, having an annular flange, arranged to engage said gasket, to seal the joint between said casing and said base frame; a tube extending centrally through said casing, and surrounding said stem, and having its upper end inwardly swaged to closely embrace said stem; a water receptacle detachable from said carbid casing and provided with a gasket, arranged to seal the joint between said receptacle and casing, and forming a gas chamber; a centrally disposed tube extending through said water chamber, and providing a central passageway; a spider frame surrounding the upper region of said water receptacle and having an aperture in alinement with said passageway, and provided with a projecting bead surrounding said aperture; a connecting rod extending through said passageway and aperture, in threaded engagement with said stem; a head on said connecting rod, arranged to conveniently rotate the latter, and provided with a gasket arranged to coöperate with said bead to seal said passageway.

8. In an acetylene gas generator, the combination with a carbid casing; of a separable base frame for said casing provided with an upwardly extending boss; a cup in threaded engagement with said boss and provided with a gasket; a ring in the bottom of said carbid receptacle, having an annular flange arranged to engage said gasket to form a gas tight joint between said receptacle and its base frame; a threaded stem on said base frame extending through said carbid casing; a water receptacle superimposed upon said carbid casing; a gasket carried by said water receptacle in engagement with the upper edge of said carbid casing; a connecting rod extending through a passageway in said water receptacle in threaded engagement with said stem; a head on said connecting rod, arranged to rotate it with respect to said stem; a gasket between said head and said water receptacle arranged to seal said passageway, when said head is rotated to connect the generator parts.

9. In an acetylene gas generator, the combination with a carbid casing, of a separable base frame for said casing, provided with an upwardly extending boss, and having supporting feet, a cup in threaded engagement with said boss, and provided with a gasket; means arranged to secure said cup in adjusted relation with respect to said frame; a ring in the bottom of said carbid casing, arranged to engage said gasket when the lower edge of said carbid casing rests upon said feet; a stem extending through said carbid casing from said base frame; a water receptacle removably mounted upon said carbid casing; a gasket interposed between said casing and said receptacle; a connecting rod extending through said water receptacle in threaded engagement with said stem; and a head on said connecting

rod arranged to rotate the latter with respect to said stem and thereby secure all of the generator parts in gas tight relation.

10. In an acetylene gas generator, the combination with a carbid casing; of a separable base frame for said casing, having a stem extending through said casing; a water receptacle superimposed upon said carbid casing; a connecting rod extending through said water receptacle in threaded engagement with said stem; a head on said connecting rod exterior to said water receptacle, arranged to rotate said rod with respect to said stem; and an abutment on said connecting rod arranged to prevent its removal from said water receptacle, and so arranged that said water receptacle may be carried by said heat when detached from the carbid casing.

11. In an acetylene gas generator the combination with a carbid casing; of a separable base frame for said casing, having a stem extending through said casing; a gasket carried by said base frame, arranged to seal the joint between said casing and said frame; a water receptacle superimposed upon said carbid casing; a gasket interposed between said water receptacle and said casing; a connecting rod extending through said water receptacle, in threaded engagement with said stem; and means whereby said connecting rod may be rotated with respect to said stem to rigidly connect all of the generator parts in gas tight relation.

12. In an acetylene gas generator, the combination with a carbid casing; of a separable base frame for said casing, having a threaded stem extending through said casing; a tube extending through said casing and surrounding said stem; a carbid receptacle mounted in said casing and provided with a foraminous floor arranged to support carbid; a dome shaped cap within said carbid receptacle, having a centrally depending tube surrounding said stem, and extending in close proximity to said floor; a water receptacle superimposed upon said carbid casing, forming a gas chamber; a gasket interposed between said casing and said water receptacle; a connecting rod extending through said water receptacle in threaded engagement with said stem; means whereby said connecting rod may be rotated with respect to said stem to secure said generator parts in gas tight relation; a valve in said water receptacle arranged to direct water into said carbid receptacle; and a detachable spiral condensing coil surrounding said water receptacle and detachably connected with said gas chamber at its lower end, and having its upper end extended to receive a flexible conduit, and supported by a foraminous casing which is detachably secured to said water receptacle.

In testimony whereof, I have hereunto signed my name at Philadelphia, Pennsylvania, this 28th day of June, 1909.

EDWIN M. ROSENBLUTH.

Witnesses:
ARTHUR E. PAIGE,
CATHARINE C. CASSIDY.

Correction in Letters Patent No. 1,025,648.

It is hereby certified that in Letters Patent No. 1,025,648, granted May 7, 1912, upon the application of Edwin M. Rosenbluth, of Philadelphia, Pennsylvania, for an improvement in "Acetylene-Gas Generators," an error appears in the printed specification requiring correction as follows: Page 4, line 18, for the word "heat" read *head;* and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 28th day of May, A. D., 1912.

[SEAL.]

C. C. BILLINGS,
Acting Commissioner of Patents.