No. 868,293. PATENTED OCT. 15, 1907.

E. M. ROSENBLUTH.

ACETYLENE GAS GENERATOR.

APPLICATION FILED MAR. 9, 1907.

7 SHEETS—SHEET 1.

FIG. I.

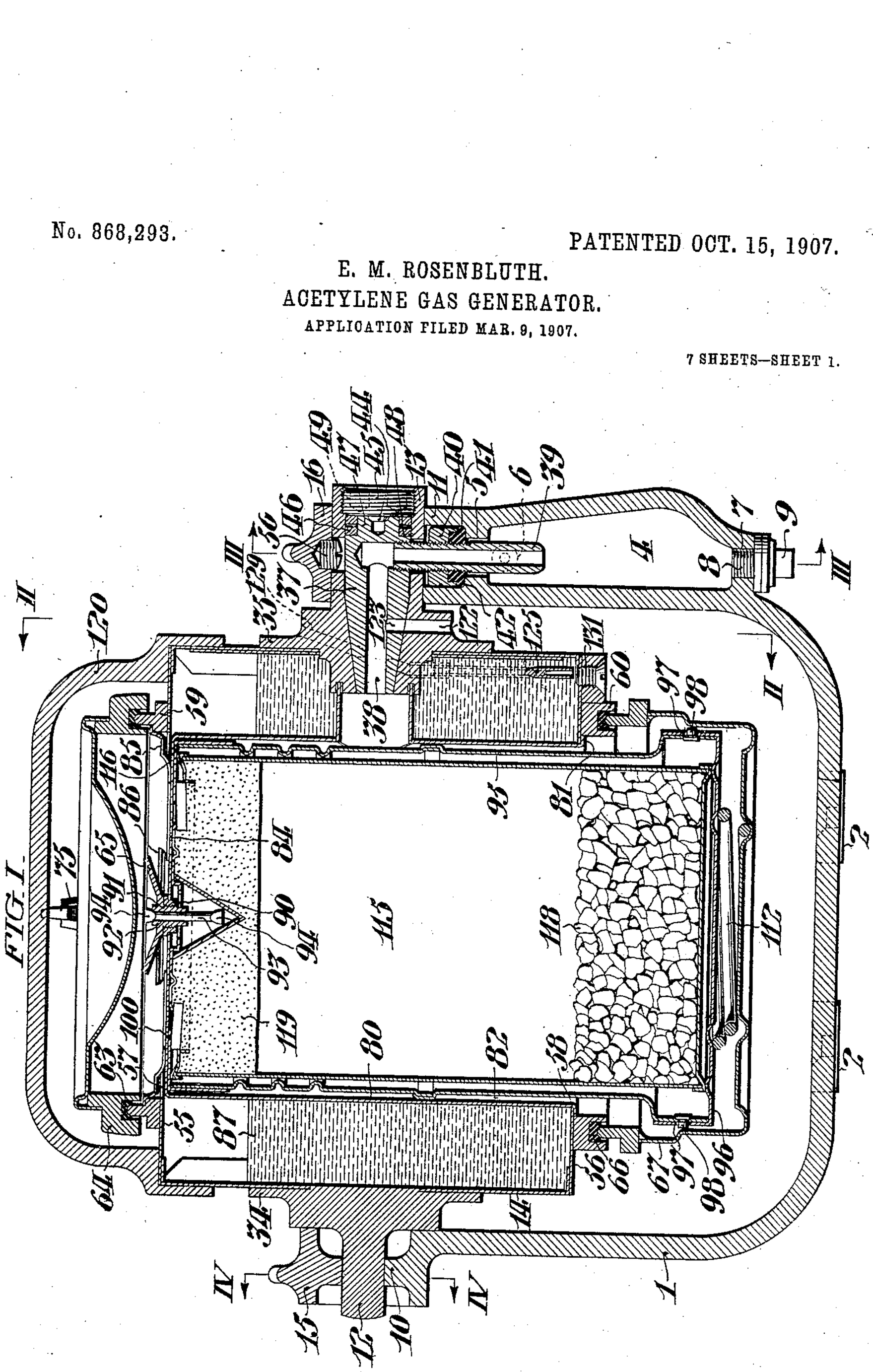
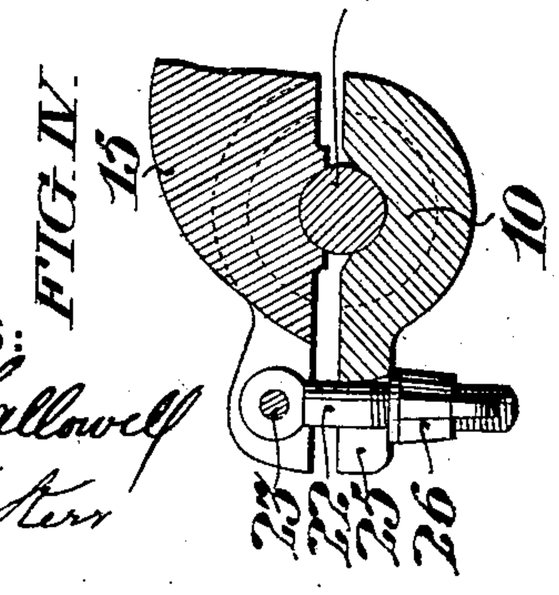


FIG. V.



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7 SHEETS—SHEET 2.

FIG. II.

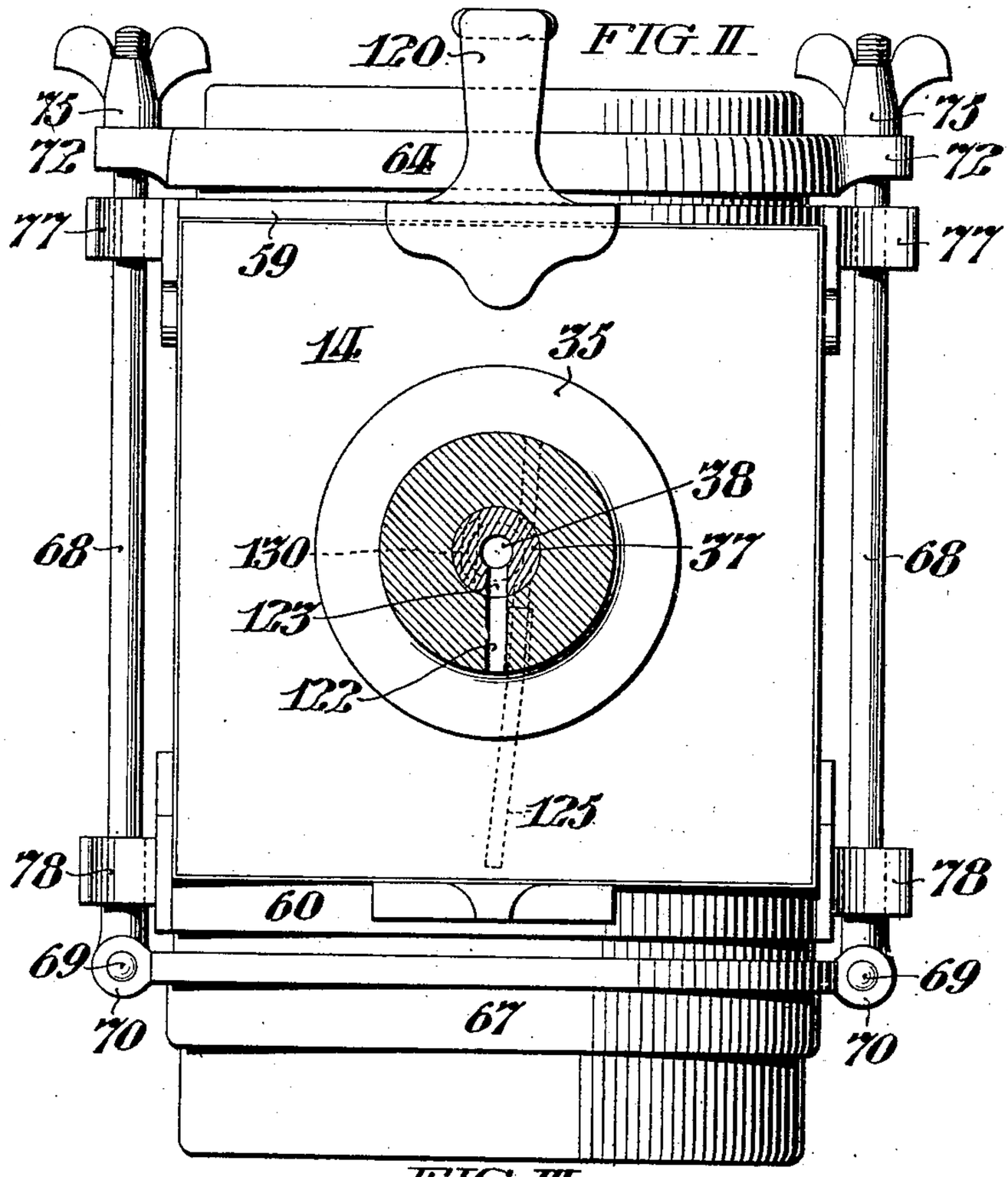
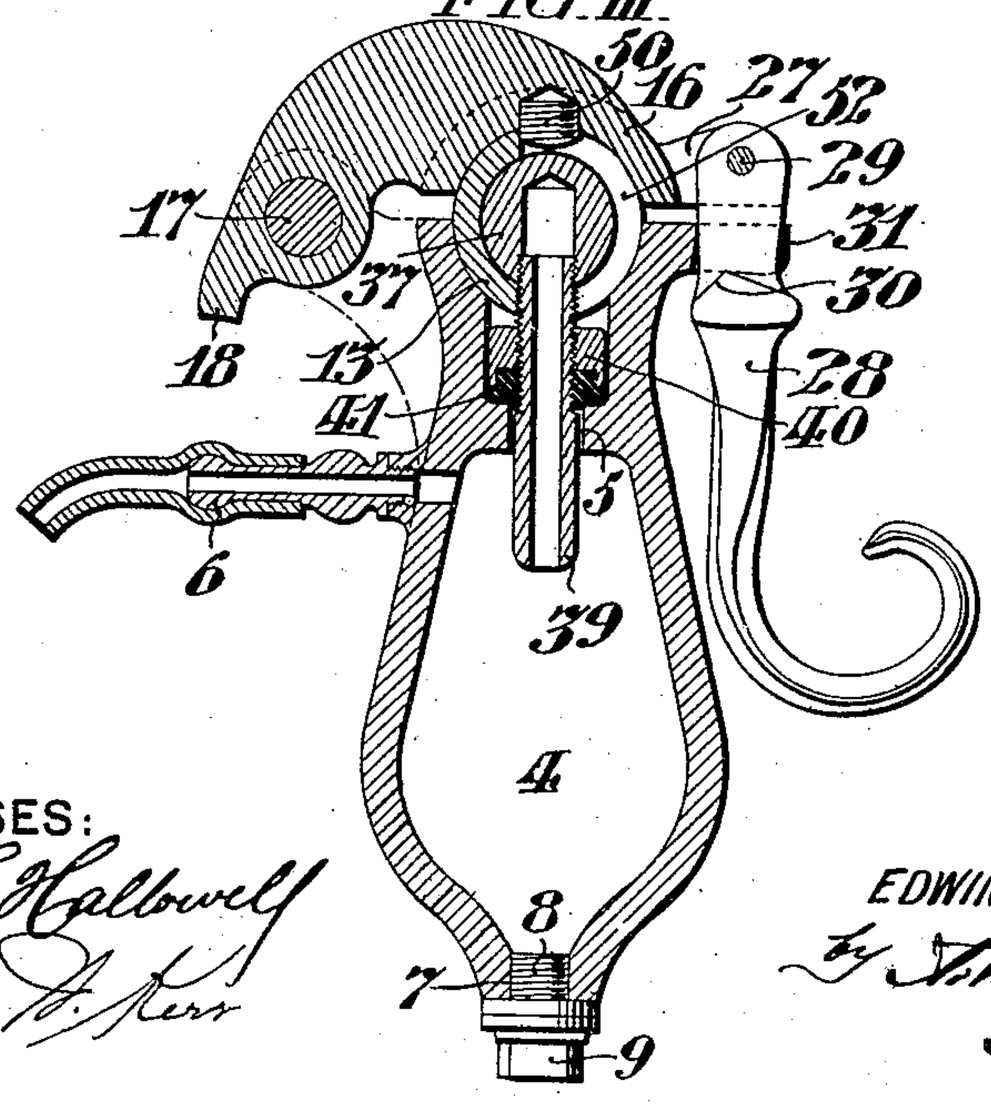


FIG. III.



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APPLICATION FILED MAR. 9, 1907.

7 SHEETS—SHEET 3.

FIG. V.

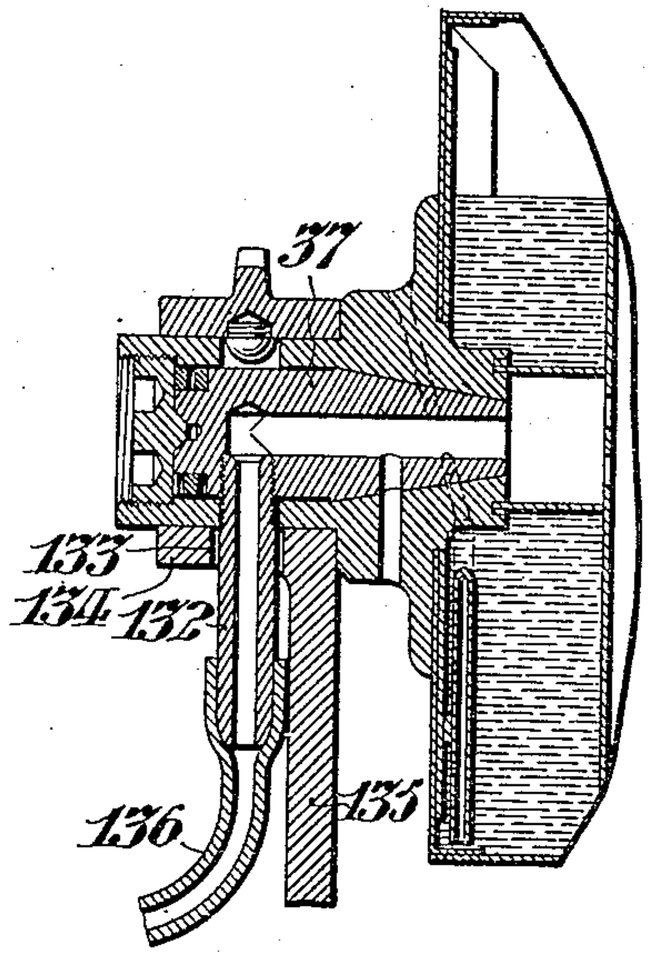
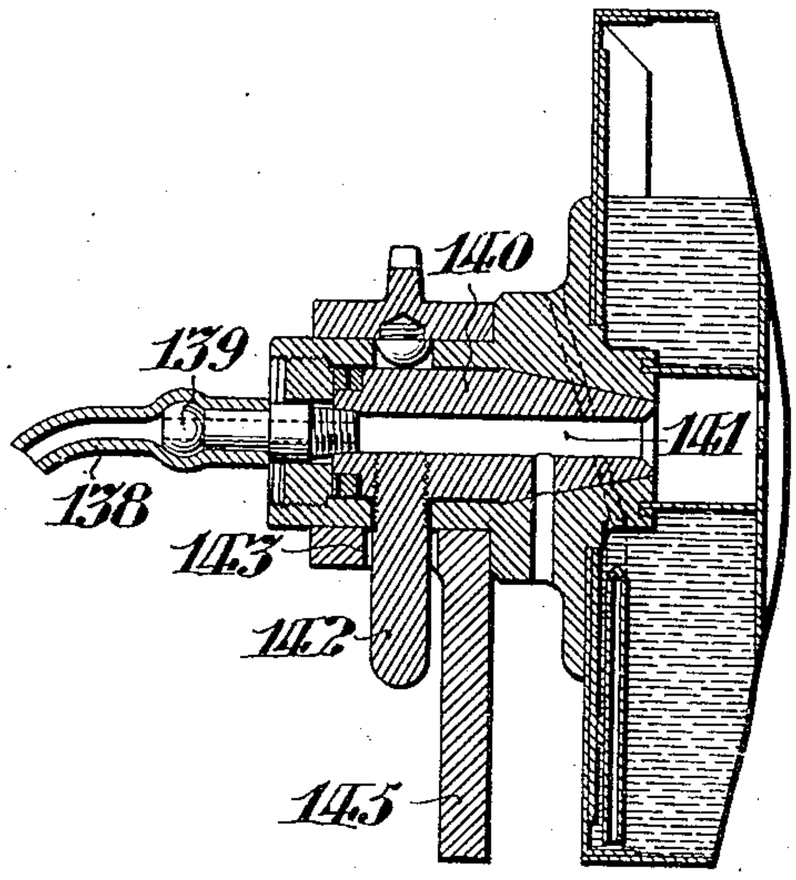


FIG. VI.



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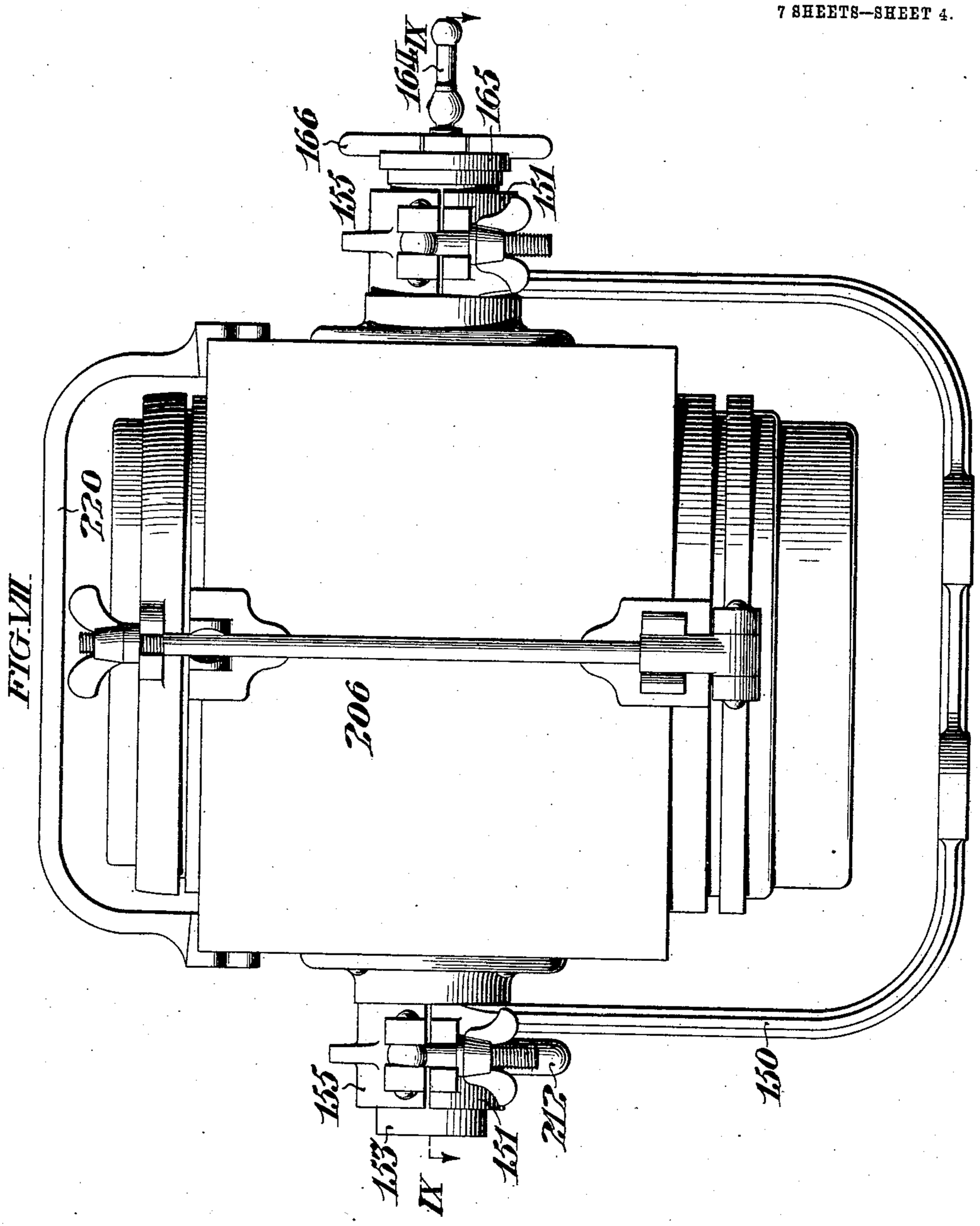
7 SHEETS—SHEET 4.

FIG. III.



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APPLICATION FILED MAR. 9, 1907.

7 SHEETS—SHEET 5.

FIG VIII

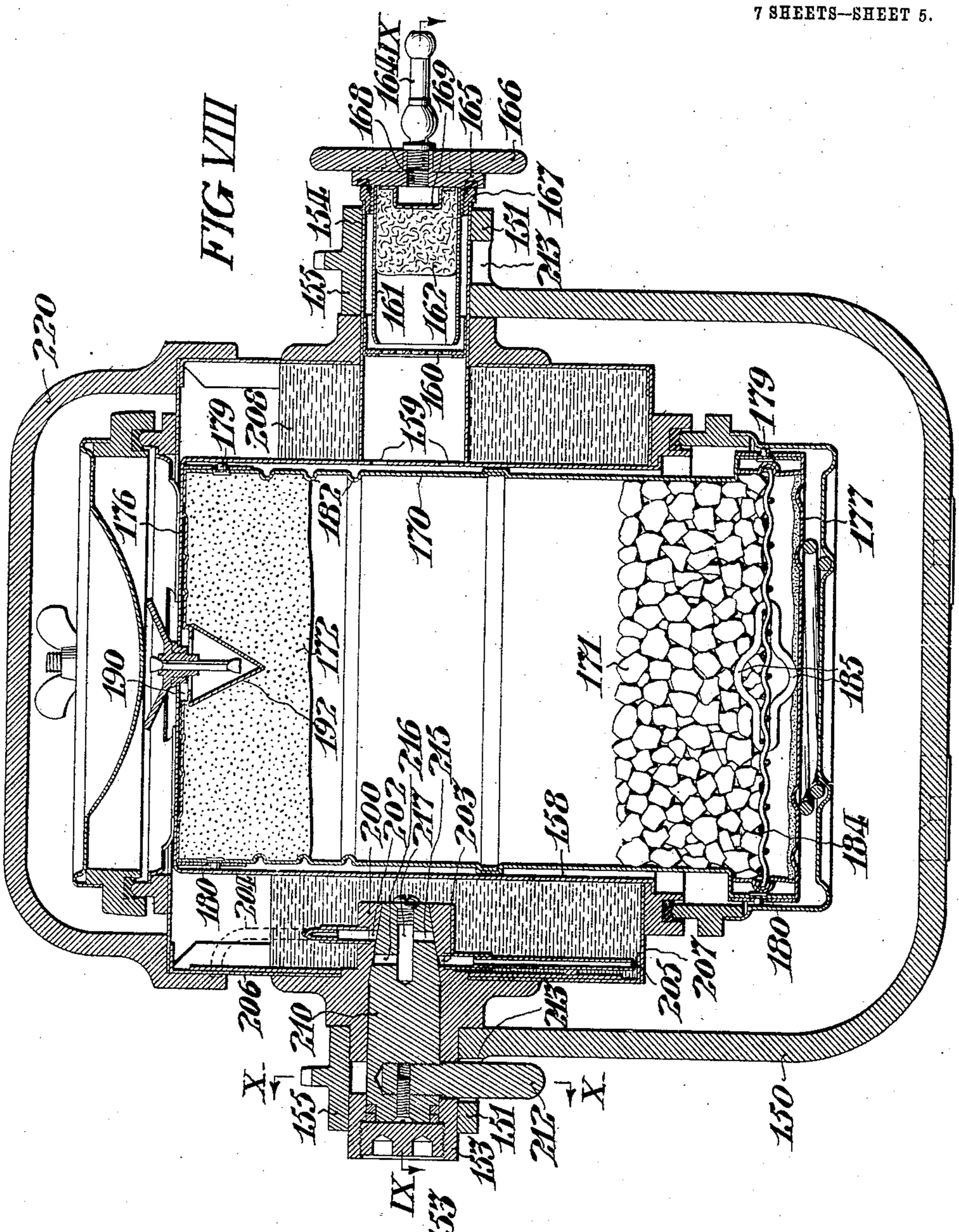
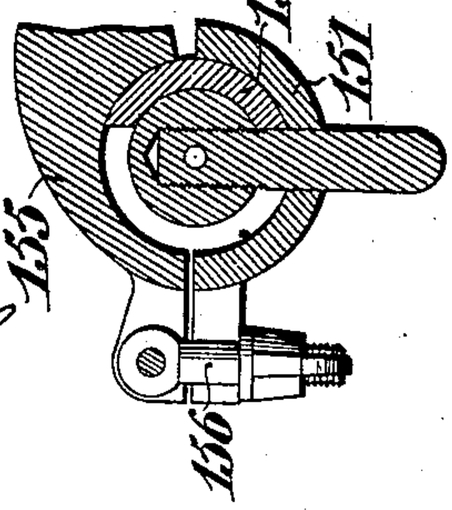


FIG. X.



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No. 868,293. PATENTED OCT. 15, 1907.

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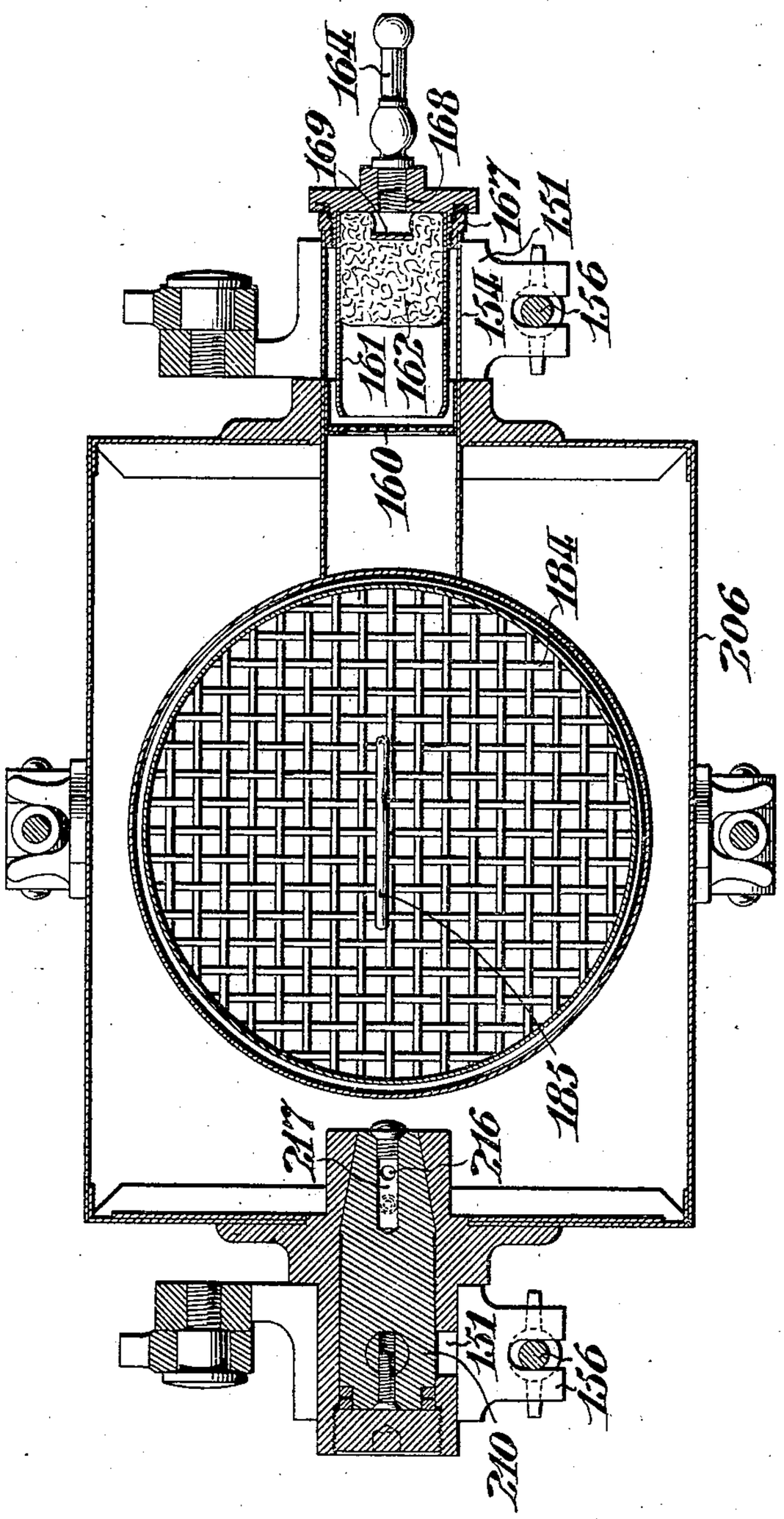
ACETYLENE GAS GENERATOR.

APPLICATION FILED MAR. 9, 1907.

7 SHEETS—SHEET 6.

FIG. IX.



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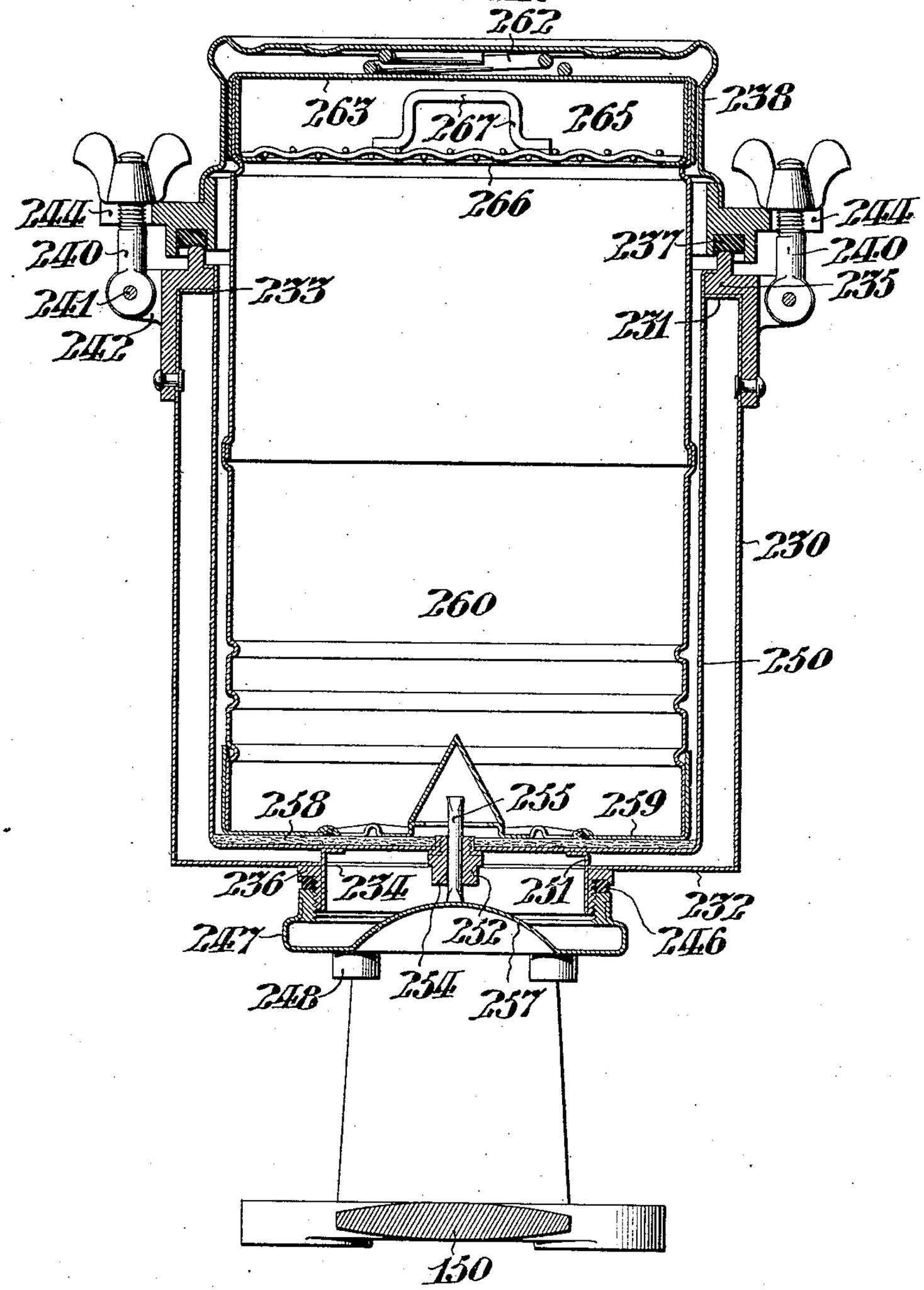
ACETYLENE GAS GENERATOR.

APPLICATION FILED MAR. 9, 1907.

7 SHEETS—SHEET 7.

FIG. XI.



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UNITED STATES PATENT OFFICE.

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ACETYLENE-GAS GENERATOR.

No. 868,293. Specification of Letters Patent. Patented Oct. 15, 1907.

Application filed March 9, 1907. Serial No. 361,562.

To all whom it may concern:

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

My invention relates to generators of the class described in Letters Patent of the United States #821,540, granted to me May 22nd, 1906; wherein the generation of gas is initiated and terminated by the rotary inversion of the generator casing in a base bracket having bearings for alined trunnions on the generator casing. The specific type of generator described in said patent is provided with a valve which must be opened by the operator when the generator is turned to operative position, so as to admit air to the water chamber, to permit the water to flow to the carbid. Said valve must also be closed by the operator, before the generator is turned to inoperative position, to prevent the escape of water through said valve. Moreover, as said generator does not comprise any special means for permitting the escape of gas generated by particles of partly decomposed carbid after the generator is turned to inoperative position; it is necessary for the operator to permit the escape of such "after generated" gas through the burner. Moreover, as described in said patent, the supply of gas from the generator to the burner is directed through a flexible conduit which is directly attached to the generator and which must be disconnected and connected by the operator whenever the generator is removed or replaced. I have found in practice that careless and inexperienced operators failed to properly manipulate said air valve and sometimes failed to connect said gas conduit, and, that there is a commercial demand for generators which do not discharge "after generated" gas through the burner. Therefore, it is the general object of this invention to so construct and arrange such a generator that it may be removed from and replaced in its bearings without disturbing the conduit which directs the gas from the generator to the burner, and so that the mere rotary inversion of the generator shall suffice to properly initiate and positively terminate the supply of gas to the burner, without requiring the operator to manipulate any auxiliary valve or other device.

Another general object of the invention is to so simplify the construction of certain parts of the generator as to facilitate the initial assembling of the same.

In the form of my invention hereinafter described, a valve is comprised in one of the trunnions on the generator casing, so as to be automatically operated by the rotary movement of the generator, to permit the escape of the small quantity of gas generated, as aforesaid, after the generator is turned to its inoperative position, and to automatically open a passage to admit air to the water receptacle when the generator is turned to its operative position, so as to permit the water to flow to the carbid. As hereinafter described, said trunnion forms a rotary casing for a valve plug which is maintained stationary by the engagement of its outlet nozzle in the bearing which supports said trunnion, and, the flexible conduit through which gas is supplied to the burner is attached to the bearing bracket, apart from said nozzle but in communication therewith through said bracket; so that the generator may be removed without disturbing said conduit.

The bearing bracket herein described and shown is claimed in my copending application, Serial Number 353,805, filed January 24th, 1907.

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

In the accompanying drawings Figure I, is a central vertical longitudinal sectional view of a generator conveniently embodying my improvements. Fig. II, is a transverse vertical sectional view, taken on the line II, II in Fig. I. Fig. III, is a transverse vertical sectional view, taken on the line III, III in Fig. I. Fig. IV, is a fragmentary transverse sectional view, taken on the line IV, IV in Fig. I. Fig. V, is a central vertical sectional view of a modified form of the valve mechanism shown in Fig. I. Fig. VI, is a sectional view, similar to Fig. V, but showing another form of valve mechanism. Fig. VII, is a side elevation of a modified form of generator. Fig. VIII, is a central vertical longitudinal sectional view of the generator shown in Fig. VII. Fig. IX, is a plan sectional view, taken on the line IX, IX, in Figs. VII, VIII. Fig. X, is a fragmentary transverse sectional view, taken on the line X, X, in Fig. VIII. Fig. XI, is a central vertical sectional view of a modified form of generator.

Referring to Figs. I, II, and III; the generator is arranged to be rotatably supported by the bracket 1, which may be conveniently secured in stationary position, by screws extending through its lugs 2. Said bracket 1, comprises the gas chamber 4, having the inlet 5, gas discharge nipple 6, and drip outlet 7, which latter is normally closed by the screw plug 8, having the wrench hold 9. The bracket 1, is also provided with the alined bearings 10 and 11, for the alined trunnions 12, and 13, of the generator casing 14, and said bearings respectively comprise clamping yokes 15 and 16, hinged thereto at 17 and provided with stop lugs 18, (see Fig. III,) to limit their opening movement. The free end of said yoke 15 is provided with lugs 20 in which the swing bolt 22, turns on the pivot pin 23, and is fitted between a corresponding lug 25, on the bracket 1, to which it is secured by the wing nut 26, so as to clamp the trunnion 12 of the generator in its bearing 10. The trunnion 13 is similarly clamped by the yoke 16, having the lugs 27, in which the hand lever 28, is arranged to turn on the pivot pin 29. As shown in Fig,

III, said lever 28, comprises the cam 30; arranged to engage the lugs 31, between which said lever 28 is fitted.

As best shown in Fig. I, the trunnions 12 and 13, are provided with circular flanges 34 and 35 respectively secured to the opposite end walls of the casing 14. Said trunnion 13, forms a valve casing for the conical valve plug 37 which extends axially therethrough, and comprises the gas passageway 38, connecting the generator with the gas chamber 4, which is local to the bearing 11, through the nozzle 39, which depends from said plug in right angular relation to its axis, as shown in Figs. I and III. Said nozzle 39, is provided with an adjustable nut 40, recessed to hold a facing of rubber 41, or other packing, which forms a gasket fitted to the socket 42, in said bracket 1, local to the inlet 5, and arranged to seal the joint between the generator and gas chamber 4 when connected as shown in Figs. I and III.

The valve plug 37, is held in its casing by the screw plug 45, bearing against the spiral spring 46, which surrounds the reduced end 47, of said valve plug, and abuts against its shoulder 48. Said screw plug 45 is provided with the axial bearing 44, entered in the valve plug 37, and being in threaded engagement with the valve casing trunnion 13, has the wrench hold recesses 49, whereby it may be rotated, when it is necessary to adjust the tension of the spring 46, or to remove the valve plug 37.

The generator being of the invertible type, as aforesaid, may be maintained in either of its two diametrically opposite positions by the nozzle 39 and the projection formed by the screw 50 engaging the respectively opposite ends of the slot 52 in the trunnion 13. Said projection 50, being carried by the hinged yoke 16, and entered in said slot 52, the generator may only be inverted when said projection 50 is withdrawn from said slot by raising said yoke 16. Moreover, as said nozzle 39, projects through said slot 52, the extent of the latter is conveniently such as to limit the rotary movement of said trunnion and generator to one half revolution. when the yoke 16 is uplifted to disengage said projection 50, from said slot 52. However, the mere rotary movement of the generator does not necessitate the removal of the yoke 15, which clamps the trunnion 12, for, as best shown in Fig. I, said trunnion 12, is not only smaller in diameter than the trunnion 13, but has less frictional surface in its bearing 10, so that said trunnion may be readily turned in said bearing without releasing it.

As shown in Fig. I, the casing 14, comprises the upper and lower walls 55 and 56 having the circular openings 57 and 58 respectively surrounded by the flanges 59 and 60; said flange 59, being fitted to the gasket 63 in the removable lid 64, and, the flange 60 being provided with the gasket 66, to which the removable lid 67, is fitted. Said lids are rigidly held in engagement with the flanges aforesaid by the swing bolts 68, which turn on the pivot pins 69, in the lugs 70, on the lid 67, and which are arranged to be received between the lugs 72, on the lid 64. The free ends of said bolts 68, are threaded and provided with wing nuts 75, whereby the lids 64 and 67, may be pressed in air tight relation with their respective flanges 59 and 60. Said flanges 59 and 60 are respectively provided with the guide lugs 77 and 78, between which the bolts 68, are held in parallel position.

The opening 58 is sealed by the cup shaped casing 80, having its open end terminating in a lip flange 81, which is secured to the wall 56, to form the gas tight chamber 82. The closed end wall 84, of said casing 80, terminates in close proximity to the wall 55, of the casing 14, and is secured to the flange 59, by the perforated annular rim 85, having apertures 86, for the passage of the water 87, into the lid 64. Said closed end wall 84, is provided with a valve which is conveniently disposed in concentric relation with the opening 57, and comprises the screw-threaded socket 90, having in threaded engagement therewith, the bushing 91, arranged to be conveniently rotated by its wings 65, and thereby removed when desired. Said bushing 91, is provided with the passageway 92, for water, the flow of which is restricted by the plunger 93, extending through said passageway and arranged to reciprocate therein, but prevented from removal therefrom by having enlargements 94, at its ends.

The plunger 93, not only affords the required restriction to the passage of water into the carbid chamber 82, but may be reciprocated in the passage 92, to remove any obstructions which may lodge therein.

The removable carbid receptacle is arranged to snugly fit within said cup shaped casing 80, and comprises the cylindrical shell 95, having one end larger than the other to prevent its being improperly inserted in said casing 80. Said large end is fitted with an imperforate removable lid 96, having diametrically opposite bayonet slots 97, arranged to engage the lugs 98, projecting from said shell 95. The small end of said receptacle is fitted with a grooved perforated removable lid 100.

As shown in Fig. I, the carbid receptacle is pressed into its chamber 82, by the coiled spring 112, in the lid 67, and incloses the removable carbid cartridge 115. Said cartridge 115 contains both the loose carbid 118, and the carbid ash 119, but retains the latter at one end of the cartridge shell, so that the carbid 118, may be separated from the ash 119, as shown in Fig. I, or be held in contact therewith, by gravitation, in accordance with the position of the generator, the latter being conveniently invertible by the handle 120, on the casing 14. As best shown in Fig. I, the cartridge 115, comprises the notches 116 in its rim, through which the gas may freely pass from said cartridge.

As it is desirable to prevent the discharge of gas at the burner, when the generator is turned to its inoperative position shown in Fig. I, I have provided the gas escape port 122, in the valve casing trunnion 13, arranged to register with the port 123, in the valve plug 37, when the generator is in its inoperative position, so that any after generated gas escapes through said port 122, to the atmosphere, and the supply of gas to the gas chamber 4, is terminated.

The vacuum relief tube 125, which extends into close proximity to the wall 56, in the casing 14, is an extension of the port 129, through the valve casing trunnion 13. As shown in Figs. I and II, said port 129, leads to the outer atmosphere, and is arranged to register with the port 130, in the valve plug 37, and admit air to the casing 14, when the generator is turned to operative position; to then permit the flow of water from said casing 14, into the carbid cartridge 115. The orifice which is normally closed by the screw plug 131, and

which extends through the lower wall 56, of the casing, local to the inner end of the tube 125, is arranged to afford access to said tube 125, whereby said tube may be cleaned when said plug 131, is removed.

In the form of my invention shown in Fig. V; the valve plug 37, is provided with the nozzle 132, extending through the opening 133, in the bearing 134, of the bracket 135, and may be directly connected with the burner by the flexible conduit 136. Likewise, as shown in Fig. VI, the flexible conduit 138, is directly connected to the nipple 139, which extends from the valve plug 140 in axial alinement with its gas passageway 141. Said valve plug 140, is prevented from rotating by the engagement of its radially extending pin 142, in the opening 143, in the bracket 145.

In the form of my invention shown in Figs. VII to X, inclusive, the bracket 150, comprises the bearings 151, for the generator trunnions 153 and 154, which are clamped therein by the yokes 155, having the swing bolts 156. The casing 158, which is similar to the casing 80, shown in Fig. I, is provided with the gas outlets 159, leading into the hollow cylindrical trunnion 154, which comprises the perforated diaphragm 160, at the inner end of the filter casing 161, arranged to prevent the displacement of the mass of filtering material 162, which is inclosed by said filter casing to separate moisture from the gas transmitted therethrough, to the outlet nozzle 164. Said nozzle 164 is arranged to receive a flexible conduit leading to a burner. Said filter casing 161, comprises the screw cap 165, which is provided with lugs 166, whereby it may be conveniently rotated in threaded engagement with the flange 167, on the outer end of the trunnion 154, to insert or remove said filter casing when it is necessary to renew its charge of filtering material. The gas passageway 168, through said cap 165, and nozzle 164, is protected by the shield 169, which is arranged to prevent the filtering material entering and clogging said passageway. In this form of my invention the carbid receptacle comprising the cylindrical shell 170, is arranged to directly contain both the carbid 171 and ashes 172, and to bring them in contact or separate them in accordance with its position. Said shell 170 is provided with opposite end caps 176 and 177 which are secured in removable relation therewith by the studs 179 and bayonet slots 180, as shown in Fig. VIII. Said shell 170 is provided with the corrugations 182, adjacent to its small end, arranged to detain the ashes 172, and, its large end is provided with the removable carbid supporting screen 184, provided with the handles 185, for its convenient manipulation. Said screen 184, is reversible and comprises the peripheral rim 187, arranged to maintain it in such relation to the cap 177 as to provide a space for such ashes as may be sifted from the carbid through said screen. The cap 176, being provided with the central recess 190, having an opening covered by the conical dome 192.

The trunnion 153, comprises the valve casing 200, provided with oppositely extending radial ports 202, and 203, in staggered relation to each other, which are provided with tubes 204 and 205, respectively leading to the atmosphere through the generator casing 206, and to the interior of said casing adjacent to its wall 207, as shown in Fig. IX; the end of said tube 205, being above the level of the water 208, when the casing 206 is turned to operative position so as to admit air to said casing and permit the water to flow to the carbid; the air being admitted through the valve plug 210.

The valve plug 210, shown in Fig. VIII, is maintained in stationary relation to the bracket 150, by the engagement of its radially extending pin 212, in the opening 213, in either of the bearings 151, of said bracket 150, and is provided with the radially extending staggered ports 215 and 216, which are joined by the axially extending passageway 217. Said ports 215 and 216 are arranged to register with the respective ports 202 and 203, in the valve casing 200, when the generator is inverted by its handle 220, to automatically establish communication between the water chamber and the atmosphere, as above contemplated.

Referring to the form of my invention shown in Fig. XI; it may be observed that the generator is in operative position, as distinguished from the preceding figures, wherein the generators are shown in inoperative position. The bracket 150, supports the generator casing 230, whose upper and lower walls 231 and 232, comprise the circular openings 233 and 234, respectively surrounded by the flanges 235 and 236, the former being fitted to the gasket 237, in the removable lid 238, which is secured to the casing 230, by the swing bolts 240, arranged to turn on the pivot pins 241, between the lugs 242, on the flange 235, and fitted between the lugs 244, on the lid 238. The flange 236 is screw threaded and provided with the gasket 246, to which the lid 247, is fitted in threaded engagement with said flange. Said lid comprises the lugs 248, whereby it may be readily rotated. The closed end of said cup shaped casing 250, is rigidly connected to the casing 230 by the brackets 251, and is provided with the valve 252, whose passage way 254 is restricted by the plunger 255, which in the position shown in Fig. XI rests upon the inwardly bulged portion 257, of the lid 247. The inner surface of the closed end of said cap shaped casing 250, is provided with a sheet of absorbent material 258, for instance, blotting paper or asbestos, which serves to uniformly distribute the water supplied at the center thereof, through the passageway 254, the perforated cap 259, of the carbid receptacle 260, being pressed against said absorbent material by the spring 262, bearing against the imperforate cap 263, at the opposite end of said receptacle 260. Said cap 263, incloses the chamber 265, which is adapted to receive the ashes sifted from the carbid through the removable screen 266, when the generator is inverted to inoperative position, and said screen 266 is provided with the handle 267, by which it may be conveniently manipulated. It is to be understood that, otherwise, the generator shown in Fig. XI, may be operated like the generator first above described.

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

I claim:—

1. In an acetylene gas generator, the combination with a valve casing having a port and forming a trunnion for

said generator; of a plug in said casing having a port complementary to the port in said casing; and means arranged to maintain said plug stationary in said casing, substantially as set forth.

2. In an acetylene gas generator, the combination with a valve casing forming a trunnion for said generator; of a plug, in said casing, having a port arranged to register with a complementary port in said casing leading to the atmosphere; and means arranged to maintain said plug stationary, substantially as set forth.

3. In an ecetylene gas generator, the combination with a valve casing, forming a trunnion for said generator, and having a gas escape port, and an air inlet port; of a plug in said casing comprising a gas discharge passageway leading therethrough, and having a gas escape port leading to said passageway; and an air port independent of said passageway, arranged to respectively register with their complementary ports in said casing, substantially as set forth.

4. In an acetylene gas generator, the combination with a valve casing forming a trunnion for said generator, and having a gas escape port, and an air inlet port; of a plug in said casing comprising a gas discharge passageway leading therethrough, and having a gas escape port leading to said passageway, and an air inlet port independent of said passageway, arranged to respectively register with their complementary ports in said casing; and means arranged to maintain said plug stationary, substantially as set forth.

5. In an acetylene gas generator, the combination with a valve casing forming a trunnion for said generator; of a plug in said casing comprising ports arranged to be controlled by the rotation of said generator; and means arranged to maintain said plug stationary, substantially as set forth.

6. In an acetylene gas generator, the combination with a valve casing forming a trunnion for said generator, and having a gas escape port, and an air inlet port; of a plug in said casing comprising a gas discharge passageway extending concentrically therethrough, and having a gas escape port leading to said passageway and an air inlet port independent of said passageway, arranged to respectively register with their complementary ports in said casing to open said gas escape port to the atmosphere when the generator is turned to its inoperative position, and to open said air inlet port to the atmosphere when the generator is turned to its operative position, substantially as set forth.

7. An acetylene gas generator, comprising a water chamber, and having an air inlet extending into said water chamber; and means arranged to automatically control said inlet by the rotary movement of said generator, substantially as set forth.

8. An acetylene gas generator, comprising axially alined trunnions, arranged to be clamped in suitable bearings, the frictional surface of one of said trunnions being less than the other; and means arranged to frictionally clamp each of said trunnions independently substantially as set forth.

9. An acetylene gas generator, comprising a trunnion having a passageway extending therethrough; a bearing for said trunnion, comprising the inlet of a gas chamber which is local to said bearing and distinct from said trunnion, said inlet being arranged to register with said passageway; and means whereby the rotary movement of said generator controls the flow of gas through said passageway, substantially as set forth.

10. An actelyne gas generator, comprising a trunnion having a passageway extending therethrough; a bearing for said trunnion, comprising the inlet of a gas chamber which is local to said bearing and distinct from said trunnion, the walls of said gas chamber being integral with said bearing; and, means whereby the rotary movement of said generator controls the flow of gas through said passageway, substantially as set forth.

11. In an acetylene gas generator, the combination with a trunnion; of a valve in said trunnion; an outlet nozzle for said valve, arranged to discharge gas into a gas chamber which is distinct from the generator; a gasket arranged to automatically seal the joint between said nozzle and said chamber; and means whereby the rotation of said generator controls the flow of gas through said passageway, substantially as set forth.

12. In an acetylene gas generator, the combination with a trunnion; of a valve in said trunnion; an outlet nozzle for said valve, arranged to discharge gas into a gas chamber which is distinct from the generator; a gasket arranged to automatically seal the joint between said nozzle and said chamber; and means whereby the rotary movement of said generator controls the flow of gas through said valve, substantially as set forth.

13. In an acetylene gas generator, the combination with a trunnion; of a valve in said trunnion; an outlet nozzle for said valve, arranged to discharge gas into a gas chamber which is distinct from the generator; a gasket, carried by said nozzle, arranged to seal the joint between said nozzle and said chamber; and, means whereby the rotary movement of said generator controls the flow of gas through said valve, substantially as set forth.

14. In an acetylene gas generator, the combination with a trunnion; of a valve in said trunnion; an outlet nozzle for said valve, arranged to discharge gas into a gas chamber which is distinct from the generator; a gasket arranged to automatically seal the joint between said nozzle and said chamber; means arranged to adjust said gasket relatively to said nozzle; and, means whereby the rotation of said generator controls the flow of gas through said valve, substantially as set forth.

15. In an acetylene gas generator, the combination with a generator casing having apertures in its opposite walls; of a cup whose open end seals one of said apertures and whose closed end extends adjacent to the other aperture, substantially as set forth.

16. In an acetylene gas generator, the combination with a generator casing, arranged to contain water and having apertures in its opposite walls; of a cup shaped casing whose open end seals one of said apertures, and whose closed end comprises a water inlet passage, and extends above the water level in said casing when in idle position, but is submerged when in operative position, substantially as set forth.

17. In an acetylene gas generator, the combination with a generator casing, arranged to contain water and having apertures in its opposite walls; of a cup shaped casing whose open end seals one of said apertures, and whose closed end comprises a water inlet passage, and extends above the water level in said casing when in idle position, but is submerged when in operative position; and a perforated rim securing said closed end of the cup to said generator casing, substantially as set forth.

18. In an acetylene gas generator, the combination with a generator casing, arranged to contain water and having apertures in its opposite walls; of a cup shaped casing whose open end seals one of said apertures, and whose closed end comprises a water inlet passage, and extends above the water level in said casing when in idle position, but is submerged when in operative position; a lid arranged to inclose the aperture at the open end of said cup shaped casing; and, a lid arranged to inclose the other aperture, substantially as set forth.

19. In an acetylene gas generator, the combination with a generator casing, arranged to contain water and having apertures in its opposite walls; of a cup shaped casing whose open end seals one of said apertures, and whose closed end comprises a water inlet passage and extends above the water level in said casing when in idle position, but is submerged when in operative position; a lid arranged to inclose the aperture at the open end of said cup shaped casing; a lid arranged to inclose the other aperture; and swing bolts connecting said lids, substantially as set forth.

20. In an acetylene gas generator, the combination with a generator casing comprising apertures in its opposite walls; of lids arranged to inclose said apertures; swing bolts pivoted to one of said lids and arranged to engage the other lid; and means on said casing arranged to guide said swing bolts into parallel position, substantially as set forth.

21. In an acetylene gas generator, the combination with a casing; of an air inlet tube terminating close to the

wall of said generator; means arranged to control said inlet by the rotary movement of said generator; said casing having an orifice local to the end of said tube; and means arranged to normally close said orifice, substantially as set forth.

22. In an acetylene gas generator, the combination with a valve casing having a port, and forming a trunnion for said generator; of a plug in said casing having a port complementary to the port in said casing; a bearing for said trunnion; means in said bearing arranged to maintain said plug stationary in said casing; and, means pivoted on said bearing arranged to clamp said casing in frictional engagement with its bearing, substantially as set forth.

23. In an acetylene gas generator, the combination with a valve casing having a port and forming a trunnion for said generator: of a plug in said casing having a port complementary to the port in said casing; a bearing for said trunnion; means in said bearing arranged to maintain said plug stationary in said casing; a yoke arranged to frictionally engage said casing with its bearings; and, a swing bolt comprising a winged nut arranged to engage said bearing to vary said frictional engagement, substantially as set forth.

24. In an acetylene gas generator, the combination with a generator casing arranged to contain water and having apertures in its opposite walls; of a cup shaped casing whose open end seals one of said apertures and whose closed end comprises a water inlet passage; the combination with a carbid receptacle comprising removable end caps; one of which is perforated and provided with grooves connecting said perforations and arranged to cooperate with the closed end wall of said cup shaped casing, to direct water through said openings to the carbid contained therein, substantially as set forth.

25. In an acetylene gas generator, comprising a water receptacle, the combination with a cup shaped gas receptacle having one end larger than the other; of a carbid receptacle snugly fitted to said gas receptacle and comprising one enlarged end preventing its improper insertion, and having removable caps, and arranged to receive a canister containing carbid; the cap on the smaller end of said receptacle comprising radial slots and circumferential openings, and having grooves connecting said slots, arranged to direct water through said openings to the carbid by the coöperation of said lid and the closed end wall of said cup shaped casing, substantially as set forth.

In testimony whereof, I have hereunto signed my name at Philadelphia, Pennsylvania, this 28th day of February 1907.

EDWIN M. ROSENBLUTH.

Witnesses:

ARTHUR E. PAIGE,

MARION R. WHITTAKER.