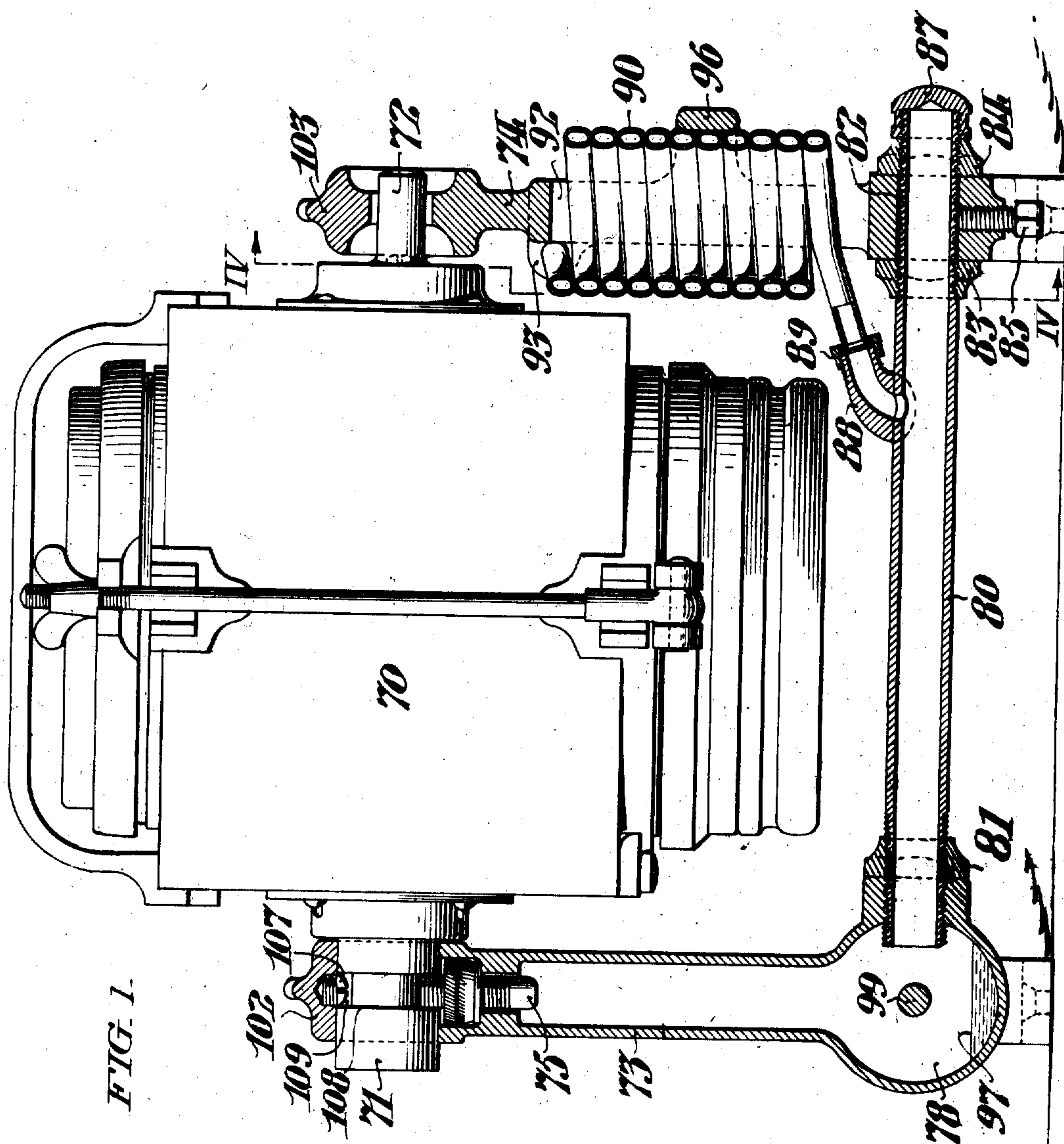


903,506.

Patented Nov. 10, 1908.

4 SHEETS—SHEET 1.



WITNESSES:

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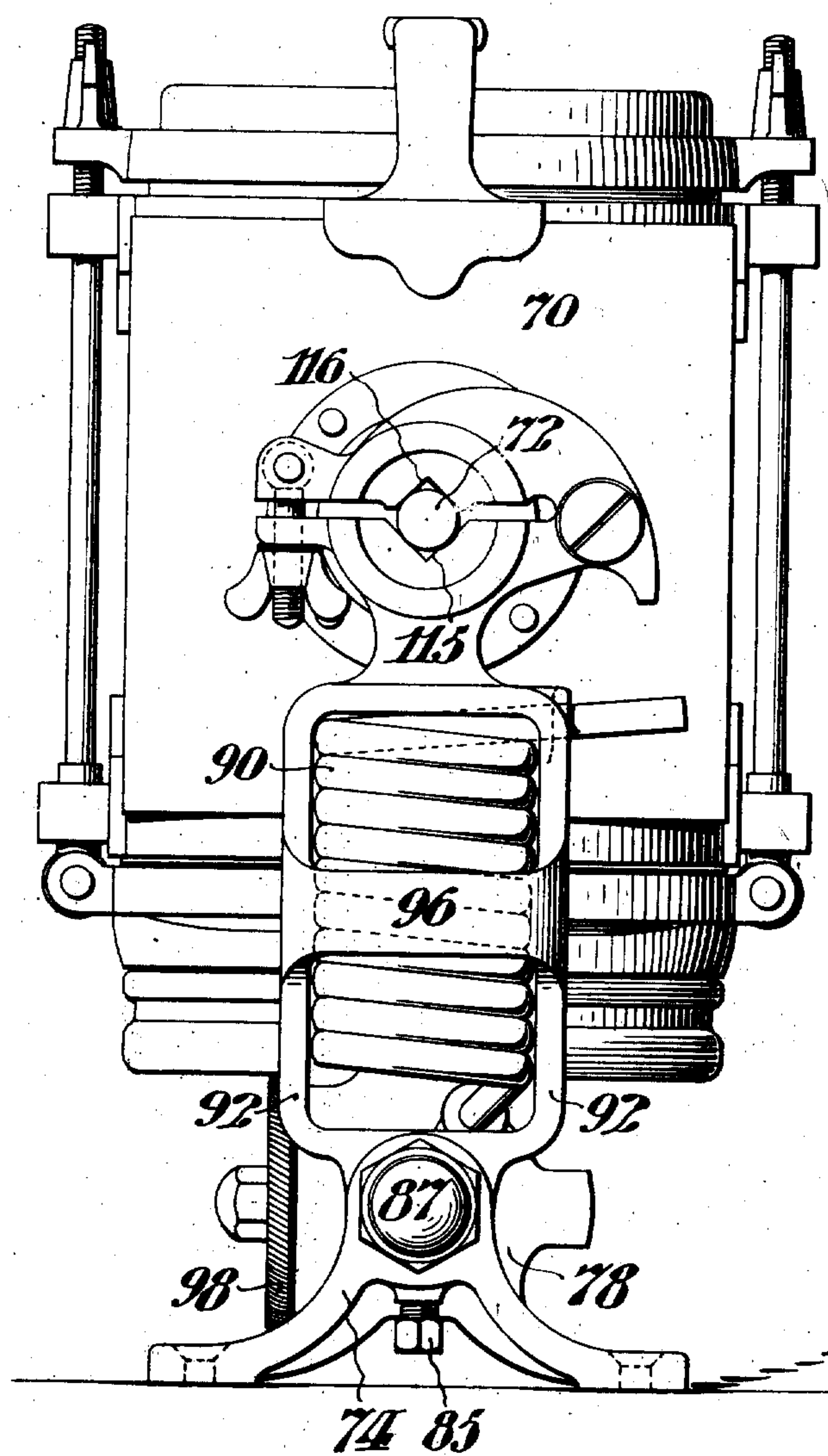
E. M. ROSENBLUTH.
ACETYLENE GAS GENERATOR.
APPLICATION FILED AUG. 29, 1907.

903,506

Patented Nov. 10, 1908.

4 SHEETS—SHEET 2.

FIG. II.



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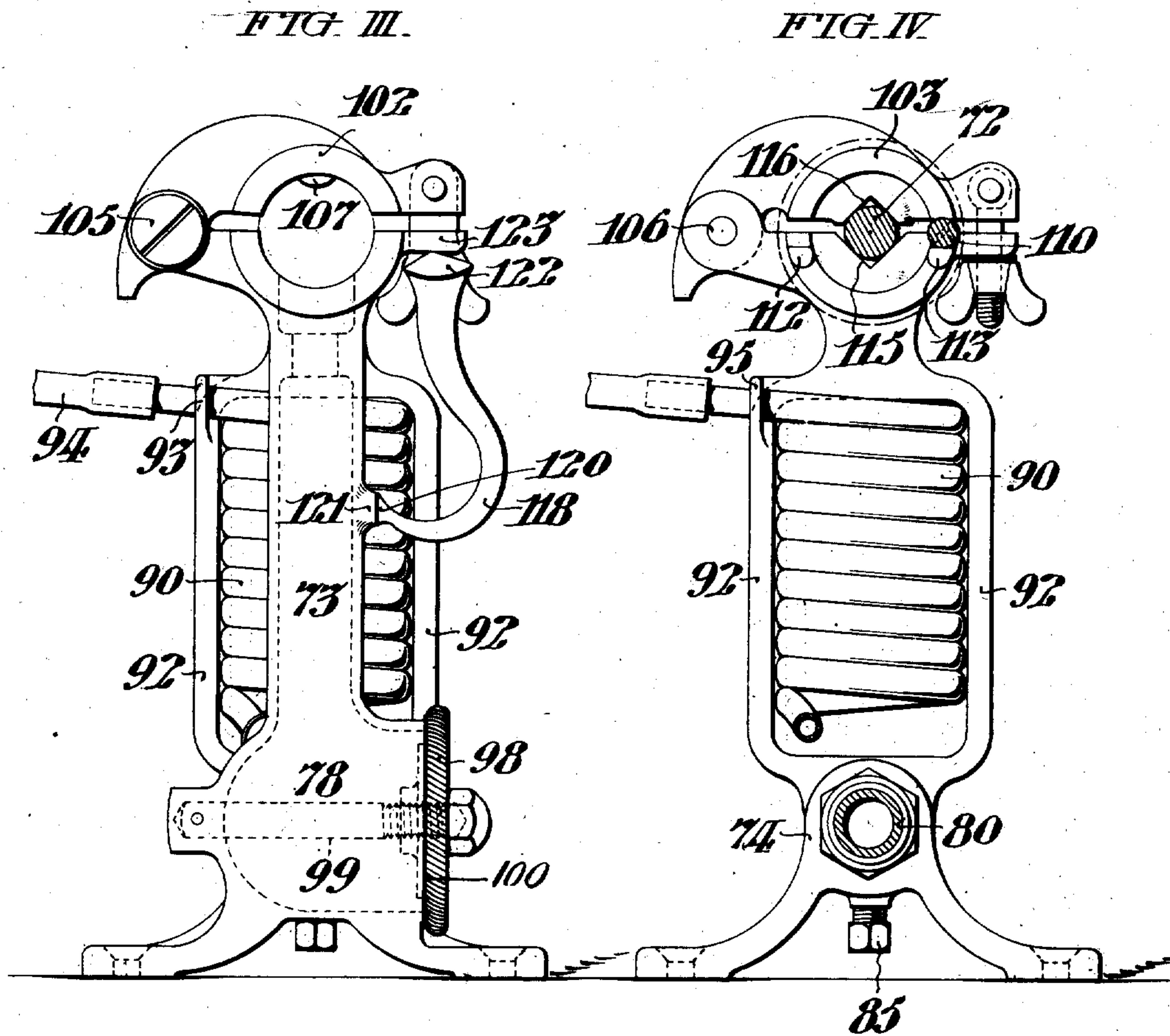
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4 SHEETS—SHEET 3.



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903,506.

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4 SHEETS—SHEET 4.

FIG. V.

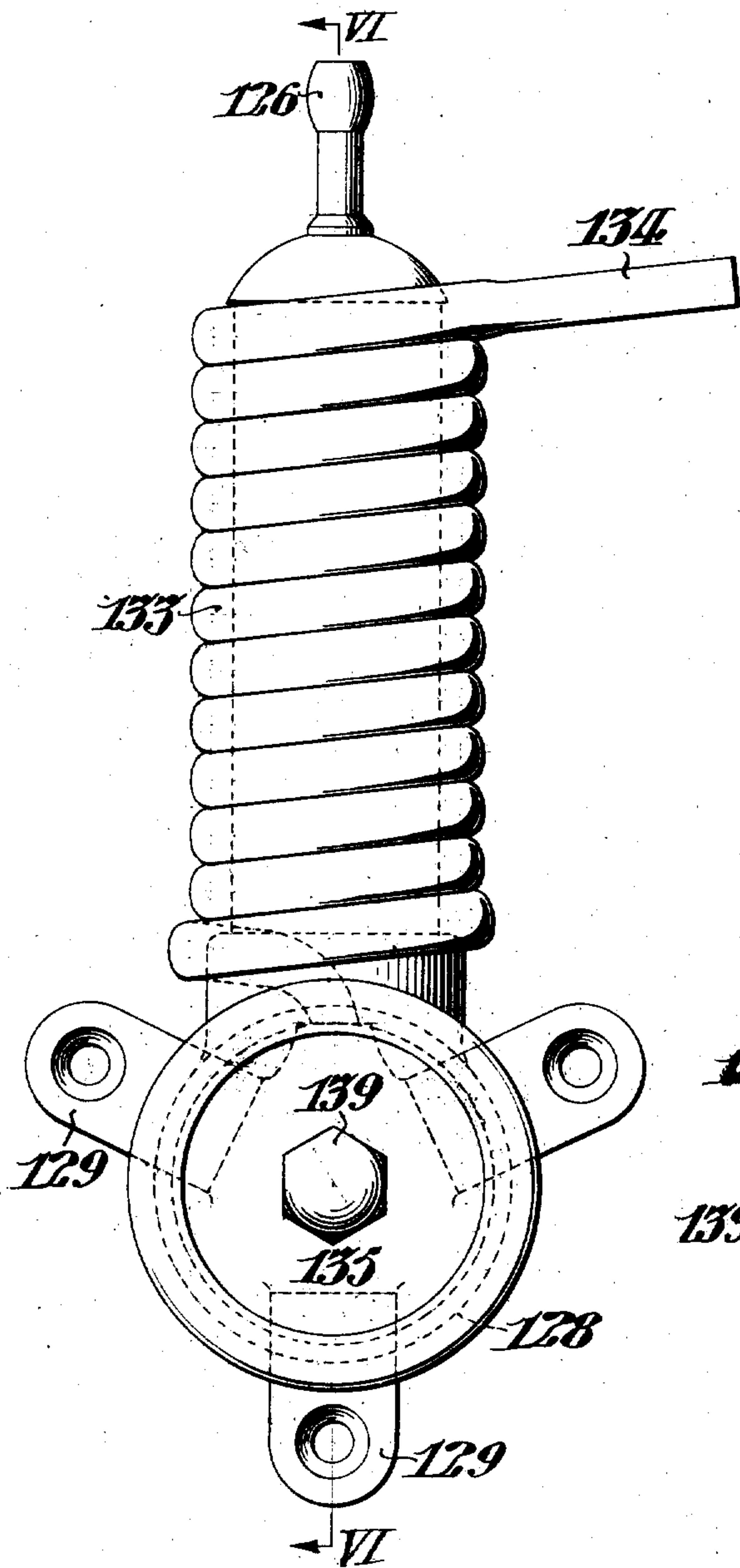
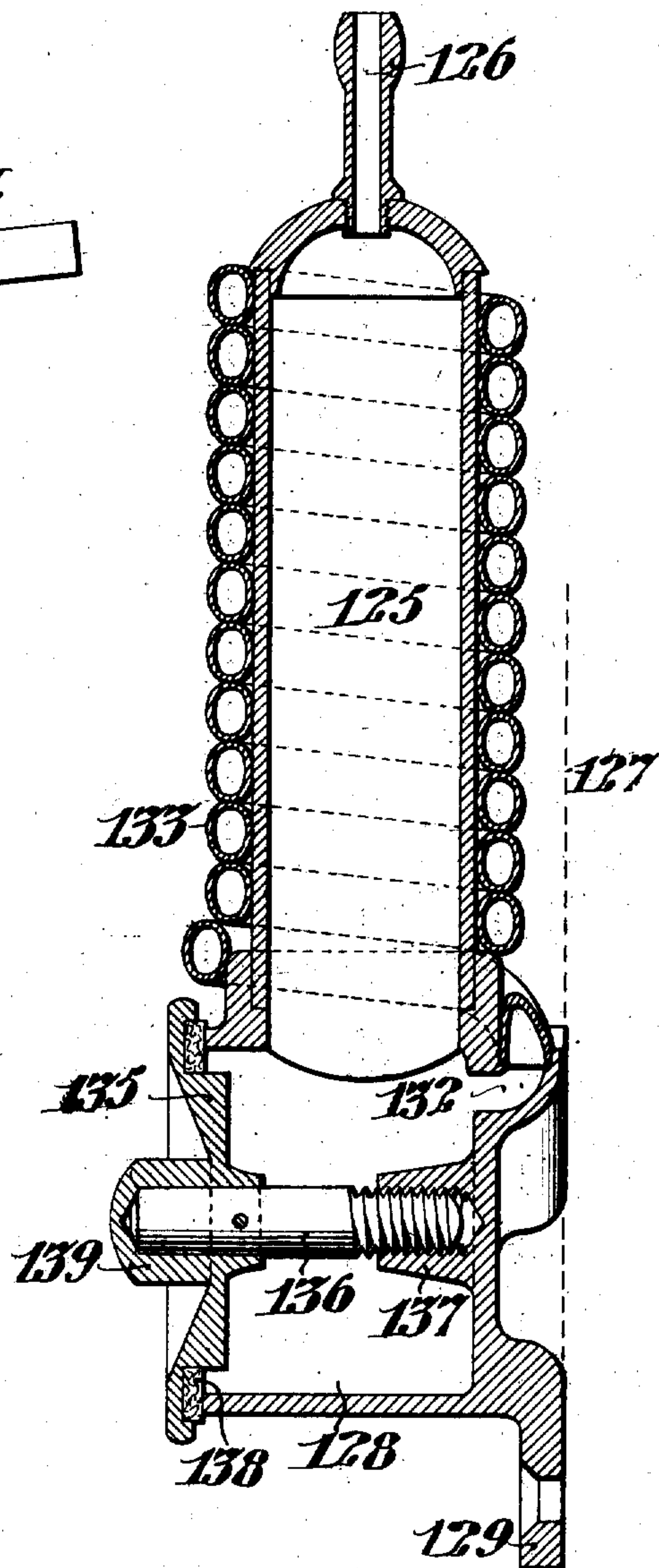


FIG. VI.



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UNITED STATES PATENT OFFICE.

EDWIN M. ROSENBLUTH, OF PHILADELPHIA, PENNSYLVANIA.

ACETYLENE-GAS GENERATOR.

No. 903,508.

Specification of Letters Patent.

Patented Nov. 10, 1908.

Application filed August 29, 1907. Serial No. 390,584.

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.

Acetylene gas being generated at high temperature, incident to the chemical combination of water and carbide, under normal conditions, carries considerable water as vapor. Therefore, means for absorbing moisture or filtering it from the gas in the generator, or adjacent thereto, are inadequate to eliminate moisture which is then vaporized but which is subsequently precipitated when the gas is cooled in contact with the gas conduit remote from the generator.

The condensate gravitates to the lower levels of the gas conduit where it causes the flame to diminish at the burner by obstructing the flow of gas from the generator until the gas pressure behind the obstruction is sufficient to force the gas therethrough, causing a momentary flare of the flame at the burner followed by diminution of the flame until there is sufficient pressure to again force gas through the obstruction. Such conditions, normal to all acetylene gas systems are particularly aggravated in the ordinary systems carried by automobiles, for, the gas conduits connecting the generator with the lamps, being necessarily detachable from the latter, comprise a considerable extent of flexible rubber tubing which hangs in bights local to the lamps and is choked by even small quantities of condensate deposited therein.

Therefore, it is an object of my invention to avoid the difficulties aforesaid by combining with an acetylene gas generator, a device, local to the generator, wherein the gas will be cooled to a temperature as low as it will attain at any time before reaching the burner, so as to separate from the gas and deposit in a predetermined location, all of the moisture which will be precipitated therefrom prior to its combustion.

As hereinafter described, my invention comprises a liquid receptacle in direct communication with a generator, and a gas conduit leading from said receptacle but comprising such an extent, coiled on a vertical axis, as to precipitate the moisture in said coil and deposit the same in said receptacle. Said coil is exterior to said receptacle and

may be mounted directly upon the exterior of the generator casing; upon a bracket comprising bearings for the generator casing, or, upon a bracket which is independent of the generator bearings.

As hereinafter described, my invention includes certain adjunctive features of construction which facilitate the assembling of the condenser coil in its cooperative relation with the generator and its subsequent removal for the purpose of repairs.

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

Figure I, is a central vertical longitudinal sectional view of a bracket embodying a modified form of my invention, and, conveniently supporting a separable acetylene gas generator, which latter is shown in elevation. Fig. II, is an end elevation of said bracket and generator as seen from the right hand of Fig. I. Fig. III, is an end elevation of the bracket as seen from the left hand of Fig. I. Fig. IV, is a transverse vertical sectional view taken on the line IV, IV, in Fig. I. Fig. V, is an elevational view of another form of my invention. Fig. VI, is a central vertical sectional view taken on the line VI, VI, in Fig. V.

Referring to the form of my invention shown in Figs. I, to VI, inclusive, the gas generator 70, is invertible on its horizontal trunnions 71 and 72, which are journaled in the standards 73 and 74. Said trunnion 71 has the nozzle 75, through which gas is discharged from said generator 70, into said standard 73, which is hollow and comprises the receptacle or trap 78, for the condensate which is deposited therein, as hereinafter described. Said standard 73, is connected to the standard 74, by the tubular bar 80, which is in screw threaded engagement with said standard 73, and adjustably secured in rigid relation therewith by the jam nut 81. Said tubular bar 80, extends loosely through the aperture 82, in the standard 74, and being arranged for longitudinal adjustment may be secured by the nuts 83 and 84, disposed upon opposite sides of said standard 74, and is prevented from turning therein by the set screw 85. Said bar 80, is conveniently closed at its free end by the removable screw cap 87, and is provided intermediate of the bearing standards 73 and 74, with the gas outlet nipple 88, which is secured by the union 89, to the condensing-coil 90. Said condensing-

coil 90, is seated between the vertical side bars 92, of the standard 74, and has its upper end extending through the lug 93, in one of said bars, so as to be conveniently connected
 5 with a burner by the flexible conduit 94, shown in Figs. III, and IV. As shown in Figs. I, and II, said condensing-coil 90, is protected by the semi-circular web 96, which extends in unitary relation from the parallel
 10 vertical bars 92, of the standard 74, and maintains said coil in its proper position with respect to said standard. The liquid condensate 97, which flows into the trap 78, through the bar 80, from the condensing-coil
 15 90, may be discharged at convenient intervals by removing the rotary cap 98, which is provided with the gasket 100 and engaged with the screw threaded stem 99, projecting in stationary relation from the rear wall of
 20 said trap, as shown in Figs. I and III. Said standards 73 and 74 are respectively provided with bearing yokes 102 and 103, pivoted to their respective bearings at 105 and 106 respectively. The yoke 102 on the
 25 standard 73, being provided with the projection 107, extending into the semicircular groove 108, in the trunnion 71, is arranged to limit the rotary movement of the generator 70, by engaging the abutments 109,
 30 formed by the ends of said groove. The rotary movement of the generator is also limited by the projection 110, on the trunnion 72, which alternately encounters the lugs 112 and 113, which are in unitary relation
 35 with the standard 74.

As best shown in Fig. IV; the bearing 115, in the standard 74 for the trunnion 72, is V-shaped, and the bearing yoke 103, also has
 40 a V-shaped bearing 116, so that the surface of said bearings in frictional contact with said trunnion, is reduced to the minimum and the labor of fitting the same is correspondingly reduced. The bearing yoke 102, on the standard 73, is provided with the
 45 clamping hand lever 118, whose free broadened end 120, is arranged to encounter the boss 121, projecting from the standard 73, when said yoke is brought to its maximum closed position by the engagement of the
 50 cam 122, on said lever, with the lugs 123, on said standard 73.

Although as above described the condensing-coil may be mounted directly upon a bracket comprising bearings for the generator casing; it is to be understood that
 55 said coil may be maintained in operative relation with the generator and the burner upon a bracket which is independent of the generator bearings. Such an arrangement
 60 is shown in Figs. V, and VI, wherein the gas casing 125 is provided with the gas inlet nozzle 126 whereby it may be detachably connected with the gas outlet of the generator casing 127, said gas casing 125 being provided
 65 at its lower end with the condensate trap 128,

having the bracket lugs 129, whereby it may be attached to said generator casing 127. Said trap 128, has the gas outlet 132, connected with the lower end of the condensing coil 133 which extends spirally around said
 70 casing 125 and has its upper end 134 extended to receive a flexible gas conduit connecting it with a burner. Said coil 133 being maintained with its axis vertical, the condensate is precipitated therein and gravitates
 75 into said trap 128 which is provided with the removable closure comprising the rotary cap 135 having the screw threaded stem 136, engaged with the boss 137 in the rear wall of said trap. Said cap carries the gasket 138
 80 and may be rotated by the hexagonal boss 139 to close or open said trap.

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

I claim:—

1. The combination with a gas generator; 90 of a gas conduit leading from said generator and comprising a coil; a bracket maintaining said coil with its axis vertical and comprising a gas chamber in communication with said coil, and a bearing for said generator; a liquid trap interposed between said generator
 95 and said coil; and, a removable closure for said trap, substantially as set forth.

2. The combination with an acetylene gas generator having a gas outlet; of a supporting bracket connected with the generator casing; a condensing-coil inclosed by said bracket; and, means detachably connecting
 100 said coil in communication with said gas outlet, substantially as set forth.

3. The combination with an acetylene gas generator, of a condensate trap; a gas conduit connecting said generator and trap through a pivotal bearing; a condensing coil exterior to said trap in communication there-
 110 with; means arranged to relatively shift said coil and trap; and a removable closure for said trap, substantially as set forth.

4. The combination with an acetylene gas generator; of a condensate trap; a gas conduit detachably connecting said generator with said trap; a gas outlet from said trap; means arranged to vary the length of said
 115 outlet; a condensing-coil connected with said outlet; and, a removable closure for said trap, substantially as set forth.

5. The combination with an acetylene gas generator; of a condensate trap; a gas conduit detachably connecting said generator with said trap; a gas outlet from said trap; a
 120 condensing-coil connected with said outlet; and, a removable closure for said trap, comprising a rotary disk engaging a threaded stem in said trap, substantially as set forth.

6. The combination with an acetylene gas 130

generator having opposed trunnions; of a nozzle extending from one of said trunnions in communication with the interior of said generator, and arranged to direct the gas therefrom; a bracket comprising opposed standards and having a passageway for the gas from said nozzle; and a condensing-coil carried by said bracket in communication with said passageway, arranged to direct the gas therefrom and to separate the moisture carried by said gas, substantially as set forth.

7. The combination with an acetylene gas generator having opposed trunnions; of a nozzle extending from one of said trunnions, in communication with the interior of said generator, and arranged to discharge gas therefrom; a standard local to said nozzle and comprising a condensate trap; a standard local to the other trunnion; a condensing-coil carried by said latter standard; a tubular bar connecting said standards, and forming a conduit connecting said coil with said trap, whereby the condensate may be drained from said coil into said trap, substantially as set forth.

8. The combination with an acetylene gas generator having opposed trunnions; of a nozzle extending from one of said trunnions, arranged to discharge gas from said generator; a hollow standard local to said nozzle comprising a bearing for said trunnion and having a condensate trap at its lower extremity; a threaded stem secured in said standard; a gasketed closure engaged with said stem, arranged to normally close said trap; a standard comprising a bearing arranged to support the other trunnion; a condensing-coil carried by the latter standard; and a tubular bar connecting said standards and forming a conduit connecting said condensing-coil with said trap arranged to direct the condensate thereto, substantially as set forth.

9. The combination with an acetylene gas generator having opposed trunnions; of a bracket comprising opposed standards, one of which is hollow and provided with a condensate trap at its lower extremity; a threaded stem extending within said trap; a gasketed closure engaged with said stem, arranged to normally close said trap; the other standard comprising parallel uprights connected by a semicircular web in unitary relation therewith; a condensing-coil seated between said uprights and embraced by said web; a tubular bar adjustably connecting said standards and comprising a gas outlet adjacent to said coil; and a union connecting said gas outlet with said coil, substantially as set forth.

10. The combination with an acetylene gas generator; of a bracket for said generator having opposed supports and, comprising means arranged to relatively shift said supports to vary its length, substantially as set forth.

11. The combination with an acetylene gas generator, of a supporting bracket for said generator comprising opposed standards; a bar connecting said standards; and means arranged to shift said standards on said bar and to secure them in variable relation to each other, substantially as set forth.

12. The combination with an acetylene gas generator having opposite trunnions; of standards comprising bearings arranged to support the respective trunnions; a bar connecting said standards; and means arranged to adjust said standards on said bar and thereby vary the relation of said bearings; and means arranged to secure said standards in any adjusted relation, substantially as set forth.

13. The combination with an acetylene gas generator having opposite trunnions; of standards comprising bearings for said trunnions; yokes pivoted to said bearings arranged to clamp said trunnions; a bar connecting said standards; and, means arranged to vary the length of said bar between said standards, substantially as set forth.

14. The combination with an acetylene gas generator having opposite trunnions; of a standard comprising a circular bearing for one of said trunnions; a standard comprising a polygonal bearing for the other trunnion; and, a bar adjustably connecting said standards, substantially as set forth.

15. The combination with an acetylene gas generator having opposite trunnions; of a bracket comprising opposite standards, one of which is hollow and provided with a condensate trap at its lower extremity; and a condensing coil detachably supported by the other standard and separably connected with said trap, substantially as set forth.

16. The combination with an acetylene gas generator, having opposite trunnions; of a nozzle extending from one of said trunnions in communication with the interior of said generator, and arranged to direct gas therefrom; a bracket comprising opposite standards and having a passageway for the gas from said nozzle; and a condensing coil detachably carried by said bracket and separably connected with said passageway, arranged to direct gas therefrom and to separate the moisture carried by said gas, substantially as set forth.

17. The combination with an acetylene gas generator having opposite trunnions; of a nozzle extending from one of said trunnions in communication with the interior of said generator and arranged to discharge gas therefrom; a standard local to said nozzle and comprising a condensate trap; a standard local to the other trunnion and comprising a lug having an aperture; a condensing coil detachably carried by the latter standard and detachably engaged therewith by extending

through the aperture in said lug; and a tubular bar connecting said standards and forming a conduit connecting said coil with said trap; whereby the condensate may be drained from said coil into said trap, substantially as set forth.

18. The combination with an acetylene gas generator having opposite trunnions; of a nozzle extending from one of said trunnions arranged to discharge gas from said generator; a hollow standard local to said nozzle, comprising a bearing for said trunnion and having a condensate trap at its lower extremity; a standard comprising a bearing arranged to support the other trunnion, parallel uprights connected by a semicircular web, and a lug having an aperture; a tubular bar adjustably connecting said standards and comprising a gas outlet in communication with said hollow standard; and a condensing coil embraced by said web, detachably connected with said outlet and seated between said parallel uprights with its upper end extending through the aperture in said lug, substantially as set forth.

19. The combination with an acetylene gas generator having opposite trunnions; of a bracket comprising opposite standards, one of which is hollow and provided with a condensate trap at its lower extremity, the other

standard comprising parallel uprights connected by a semicircular web, and having an apertured lug; a tubular bar in threaded engagement with said hollow standard and extending loosely through the other standard; nuts in threaded engagement with said bar, disposed on opposite sides of said latter standard and arranged to relatively shift said standards and to secure them in variable relation; an outlet nipple for said tubular bar; and a condensing coil, detachably seated between said uprights and embraced by said web, having its upper end extending through the aperture in said lug, and its lower end detachably connected with said outlet nipple by a union, substantially as set forth.

20. The combination with an acetylene gas generator; of a bracket separable from said generator; a condensing coil supported by said bracket independently of the generator; and detachable means arranged to direct gas from the generator through said coil.

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

EDWIN M. ROSENBLUTH.

Witnesses:

W. H. MACLEESTER,
F. FOERSTER.