

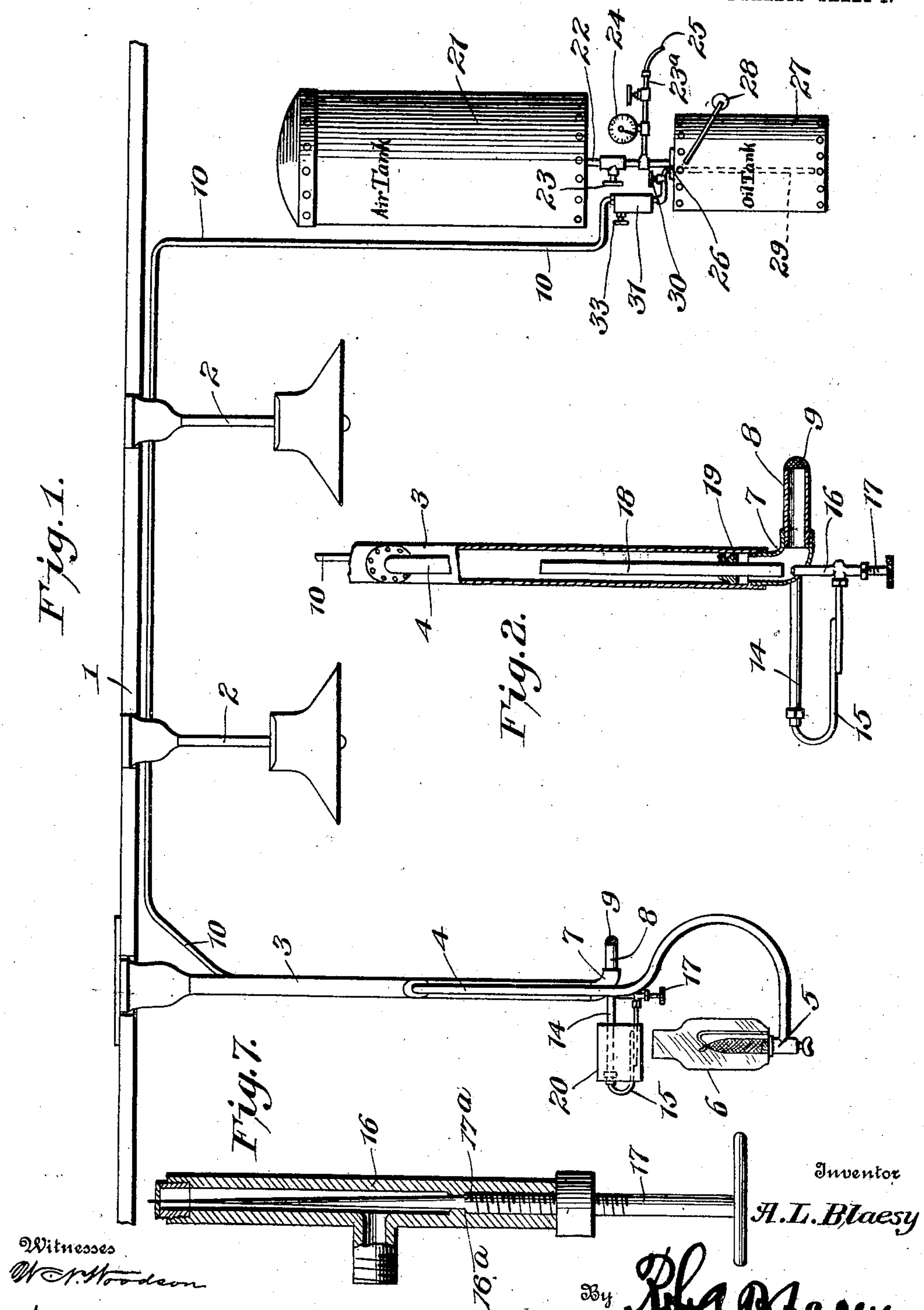
No. 886,469.

PATENTED MAY 5, 1908.

A. L. BLAESY.
GAS GENERATING APPARATUS.

APPLICATION FILED APR. 4, 1907.

2 SHEETS—SHEET 1.



Witnesses
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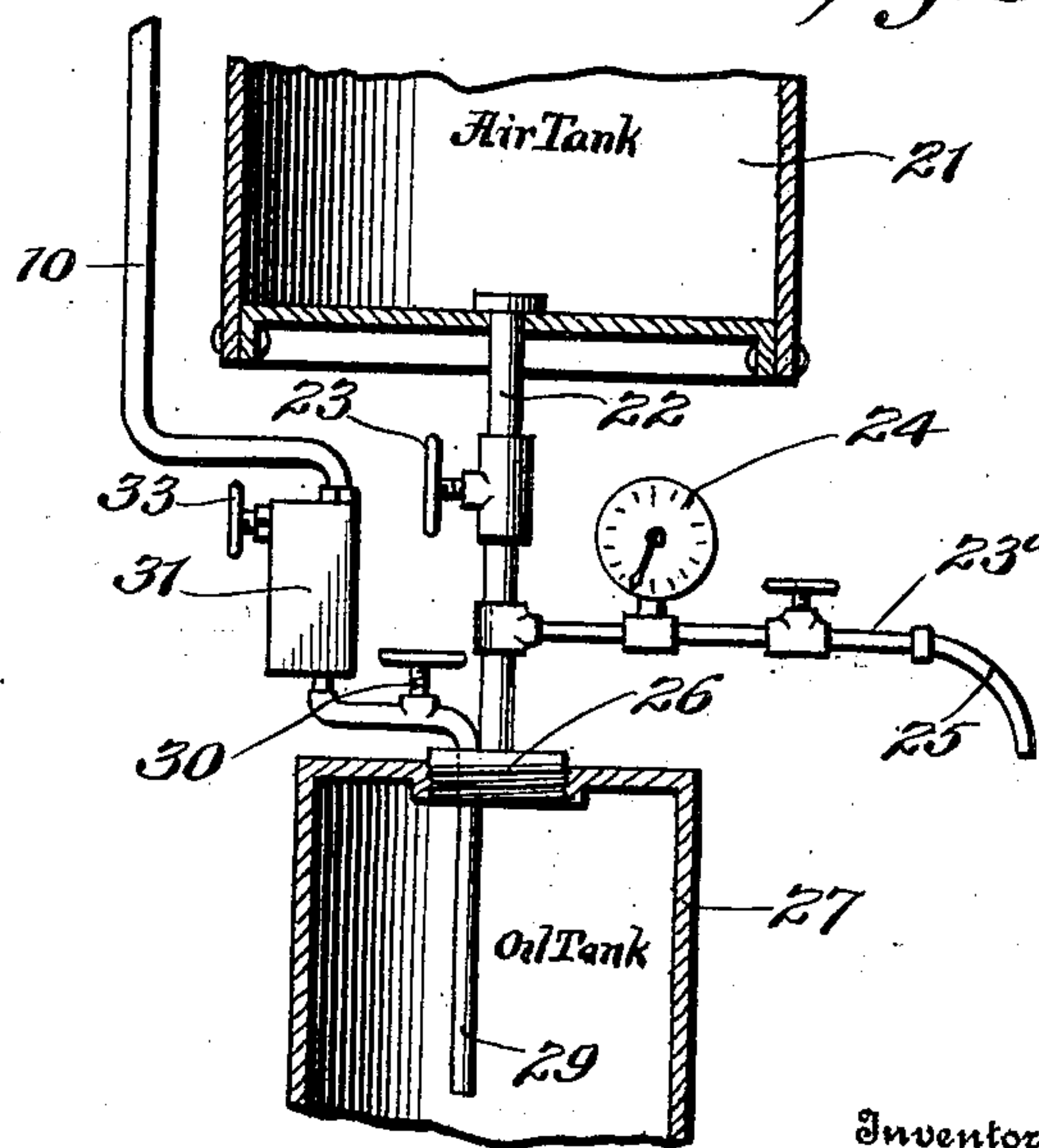
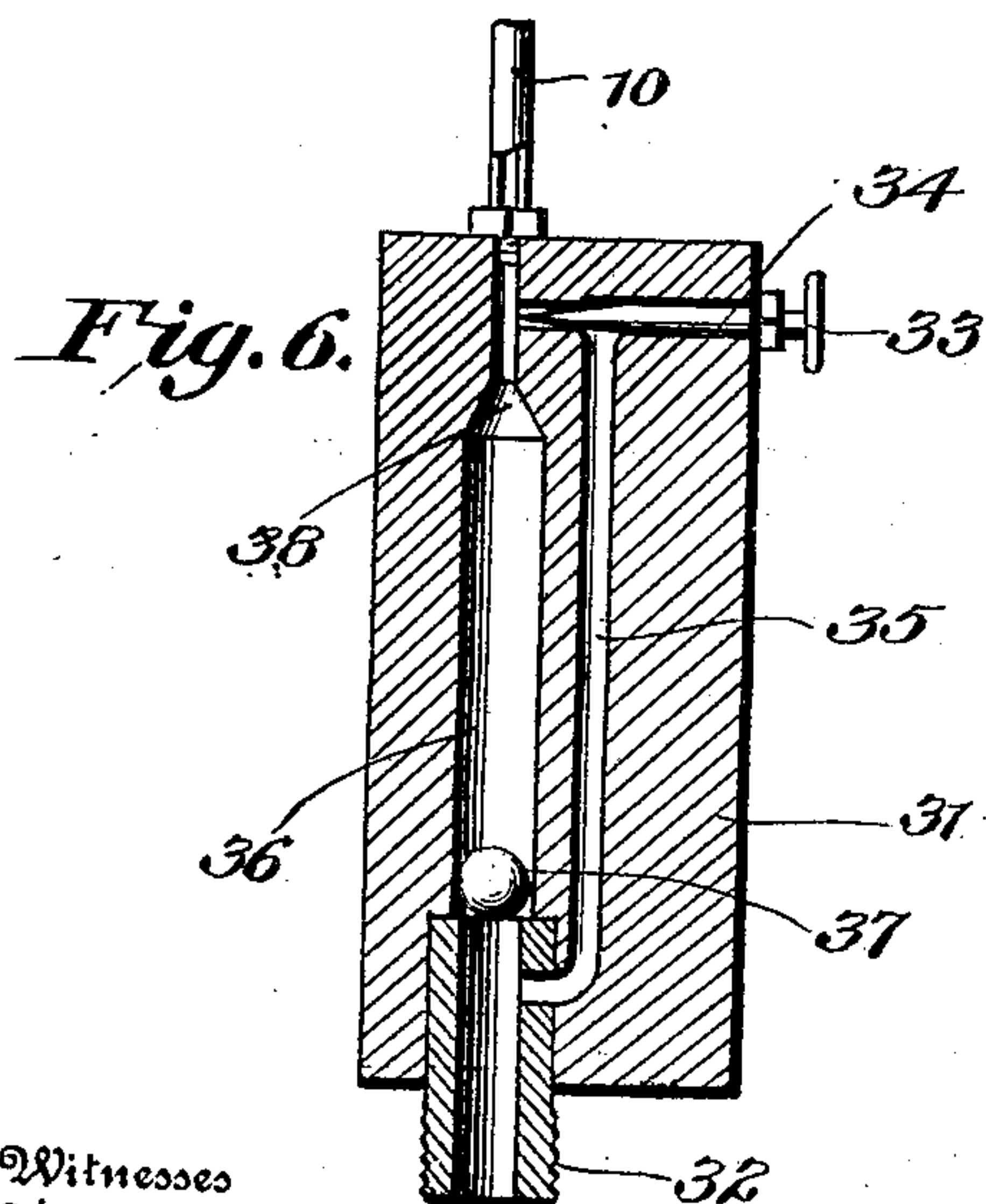
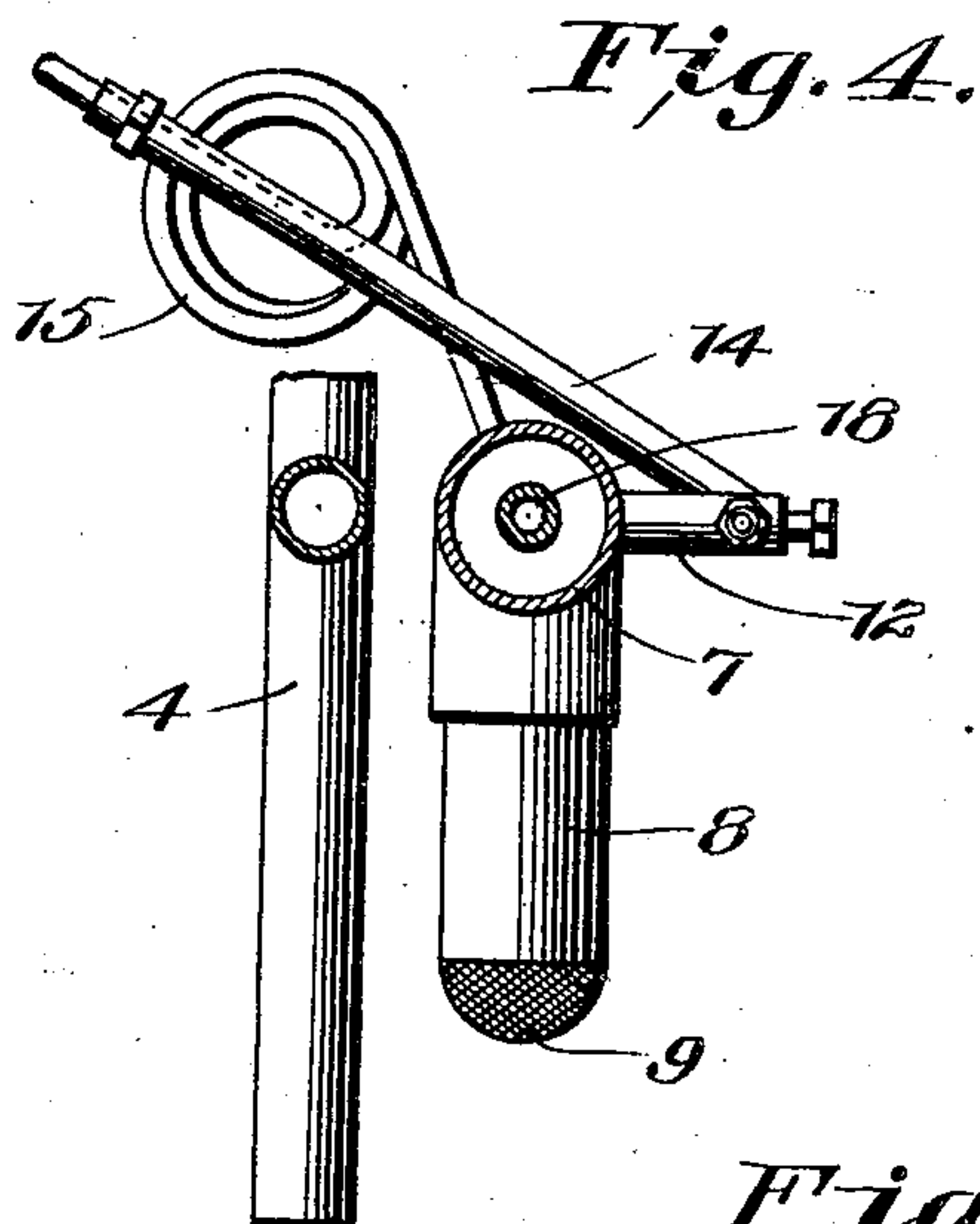
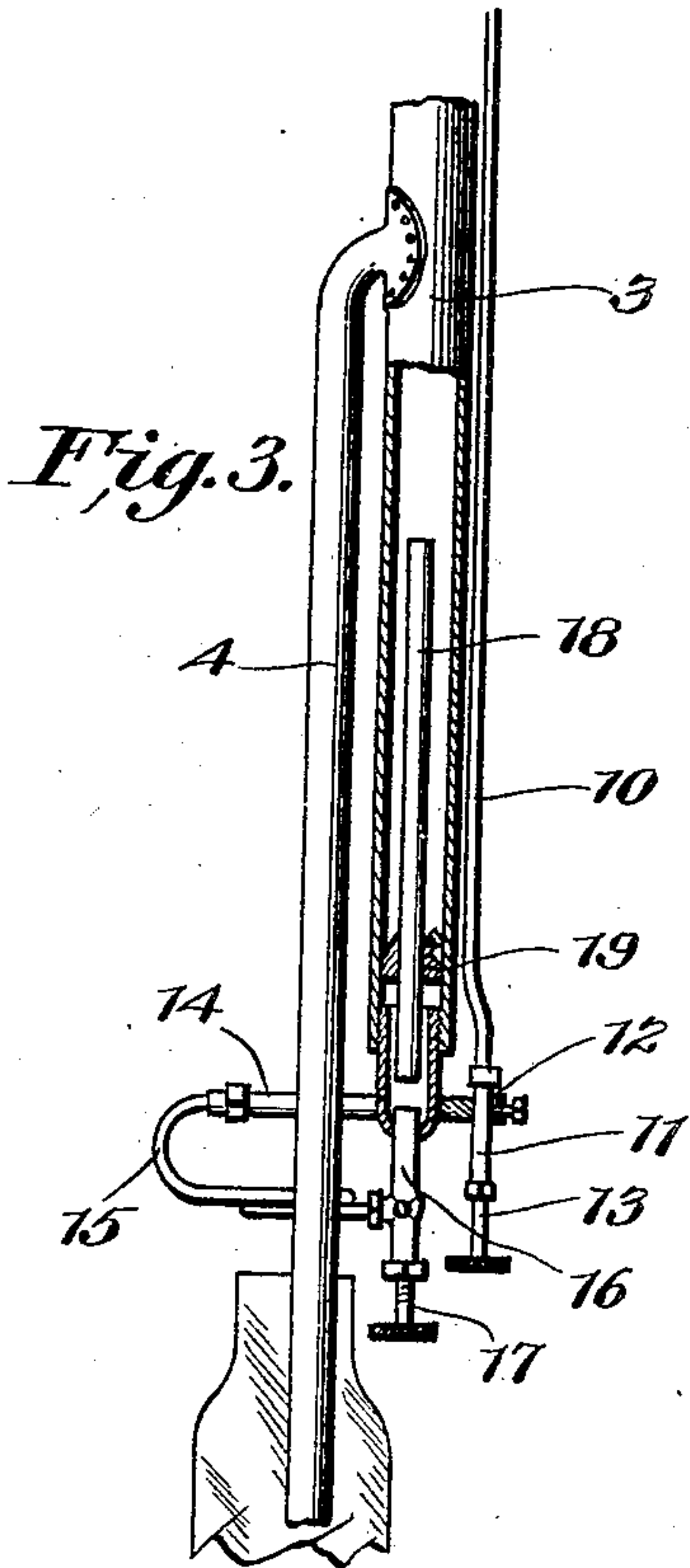
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UNITED STATES PATENT OFFICE.

ALLIE L. BLAESY, OF BROOK, INDIANA.

GAS-GENERATING APPARATUS.

No. 886,469.

Specification of Letters Patent.

Patented May 5, 1908.

Application filed April 4, 1907. Serial No. 366,447.

To all whom it may concern:

Be it known that I, ALLIE L. BLAESY, citizen of the United States, residing at Brook, in the county of Newton and State of Indiana, have invented certain new and useful Improvements in Gas-Generating Apparatus, of which the following is a specification.

This invention contemplates certain new and useful improvements in that class of gas lighting systems or burners in which the gas to be burned is generated from a hydrocarbon oil by means of the gas lamps themselves, and the invention has for one of its objects an improved construction and arrangement of parts of such a device whereby the gas for any number of lights or burners may be generated above only one of the lamps, thereby doing away with the necessity of a subflame which is customary on generators of this type, using such amount of gas which is ordinarily wasted in the subflame for lighting purposes and thereby effecting economies in the consumption of the liquid fuel.

A further object of the invention is to provide an automatically closing valve which will shut off the flow of oil in case the feed pipe becomes broken between the oil tank and generator. And a further object of the invention is to provide improved means whereby the plant may be supplied from time to time with oil by means of an oil reservoir or tank which may be removed from its connection to the air tank and be taken to the store or elsewhere and filled and then replaced without losing any air pressure, thereby effecting a saving in the operation of pumping and rendering the refilling of the tank a comparatively easy operation.

With these and other objects in view as will more fully appear as the description proceeds, the invention consists in certain constructions, arrangements and combinations of the parts which I shall now hereinafter fully describe and then point out the novel features in the appended claims.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a side elevation of a gas generating apparatus constructed according to the principles of my invention; Fig. 2 is an enlarged detail sectional view of the generating device; Fig. 3 is a similar view with parts in side elevation, taken at right angles to Fig. 2; Fig. 4 is a horizontal sectional view, the section being taken just above the generating coil; Fig. 5 is a detail vertical sectional view, with parts in side elevation, of the connected ends of the air tank and oil tank; Fig. 6 is a detail sectional view, on an enlarged scale, of the automatic valves; and, Fig. 7 is a detail sectional view of the gas controlling valve.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawings, the numeral 1 designates the main of my improved gas lighting system which may be provided with and supply gas to any number of lamps, such as the pendent fixture which is indicated at 2. For all of the lights of the system, one generating gas supply pipe is employed, the same in the present instance being designated 3 and being pendent from the main 1, which latter extends along the ceiling. The main gas supply pipe 3 has secured to it at a point intermediate its upper and lower ends and by an offset connection, a pendent pipe 4 which supports the generating drop light or gas lamp 5 which may be provided with any desired type of incandescent mantle and its protective chimney and flue 6.

7 designates an elbow which is secured within the lower end of the pipe 3 and which, in the present instance, supports practically all of the generating parts of the system. In the rear end of the elbow 7 fits an air inlet pipe 8, the end of which may be closed by a screen 9 so as to prevent solid matter from being blown into the pipes.

10 designates the oil supply pipe, which may be a tube in the nature of a hollow wire. The said oil supply pipe is connected at one end to the oil tank in a manner hereinafter specifically described and it is connected at its other end, by means of a nipple or union, to the case 11 of the oil regulating valve 13, said case being held in a vertically adjustable manner in a collar 12 projecting laterally

from the elbow 7 and having a set screw working therethrough and impinging against the case.

To a branch of the case 11, one end of a packing tube 14 is connected, said tube being packed with any suitable material so as to avoid fluctuation in the supply and maintain a constant flow. To the other end of said packing tube 14, the generating coil 15 is connected, said coil being located above the upper end of the flue 6 in proper relation thereto. The other end of the generating coil 15 is connected to the lateral branch of a casing 16 for the gas valve 17, said casing extending upwardly within and secured to the elbow 7 and being mounted underneath a mixing tube 18 which is held by a set screw within a cone 19. The jet orifice of the casing 16 points towards the lower end of the mixing tube 18 so that the gas generated in the coil will be directed into the mixing chamber constituted by the elbow 7 and flow upwardly from the casing or nozzle 16, thoroughly commingled with air admitted through the air inlet pipe 8. The gas thus generated will flow to the main 1 and supply not only the drop light 5 which effects the generation of the gas, but will also supply the other burners 2, without the necessity of using subflames.

20 designates a cap which is adapted to fit over the packing tube 14 and the generator 15 so as to properly direct the heat of the lamp or burner 5 to these parts, and diffuse the heat over the same.

The air tank 21 may be located at any point reasonably remote from the burners, and said tank is provided with an air supply pipe 22 having a valve 23 adapted to close and open the same, and being provided with a branch 23^a which carries a gage 24 and a hose connection 25 by which an air pump may be attached. The pipe 22 is secured at its lower end in a screw cap 26 which is adapted to screw into an opening at the center of the otherwise closed top of the oil tank 27, so that said tank may be unscrewed from the air pipe after the latter has been closed and the tank carried, as by its bail or handle 28, to any source of supply in order to be refilled. When in place with the cap 26 secured therein, the oil outlet pipe 29 that is secured to the screw cap 26 extends downwardly into the oil tank, as shown, while its upper end controlled by the stop-cock 30 is connected by an elbow and nipple 32 to an automatic valve mechanism 31. The valve mechanism 31 is adapted to shut off the flow of oil automatically by the rising action of the ball valve 37 in the passage 36 against its seat 38.

33 designates a valve working through a packing nut 34 in the cylindrical block which forms the foundation for the valve

mechanism near the upper end of the latter so as to control the release port or passage 35 which is in the nature of a by-pass around the ball valve 37 and the outlet passage 36 for oil in which the said ball valve is mounted. The release port is used only when an injury to the feed pipe has been repaired. Then it is used to let the oil pass around the valve until the feed pipe is filled, whereupon the ball valve will drop to its place. The release port is then closed and the ball valve remains down until the feed pipe is injured.

As seen in Fig. 7, the gas valve 17 is a needle valve within the casing 16 and is provided with a shoulder 17^a adapted to abut against an opposing shoulder 16^a in the casing, so that the needle valve may be raised in the casing just far enough to clean the jet and orifice near the upper end of the casing without being permitted to extend so far as to enlarge or otherwise injure the same.

From the foregoing description in connection with the accompanying drawings, it will be understood that in the practical operation, the oil will be forced under pressure from the tank 27 through the oil feedpipe tube 10 and will thence flow through the packing tube 14 to the generating coil 15 where the heat from the lamp or gas burner 5 will generate the gas and the same will issue out of the nozzle 16 into the elbow 7 where it will mingle with the air coming in through the inlet pipe 8 and the mixture will flow upwardly through the mixing tube 18 and supply the entire system of lamps, as well as the main generating lamp 5. It will thus be seen that but one generating lamp is employed for the entire system.

Having thus described the invention, what is claimed as new is:

1. A gas generator apparatus of the character described, comprising a gas supply pipe, an elbow secured in one end of said pipe, an air inlet tube attached to the elbow, the elbow being provided with a laterally projecting collar, a valve case mounted in said collar, a set screw securing the valve case in the collar, an oil supply tube connected to said valve case, a packing tube also connected to the valve case at one end, a generating coil connected to the other end of the packing tube, a nozzle connecting the other end of the generating coil with the elbow, and a mixing tube secured in said gas supply pipe, with its lower end extending into the elbow in juxtaposition to the said nozzle.

2. A gas generator apparatus of the character described, comprising a gas supply pipe, an elbow secured in one end of said pipe, an air inlet tube attached to the elbow, the elbow being provided with a laterally projecting collar, a valve case mounted in said collar, a set screw securing the valve case in the

collar, an oil supply tube connected to said
valve case, a generating coil connected to the
other end of the packing tube, a nozzle con-
necting the other end of the generating coil
5 with the elbow, a mixing tube within said
gas supply pipe with its lower end extending
into the elbow in juxtaposition to the said
nozzle, and a bushing within the said gas

supply tube, said bushing supporting the
mixing tube. 10

In testimony whereof I affix my signature
in presence of two witnesses.

ALLIE L. BLAESY.

Witnesses:

FRED L. BEAULIEU,
G. C. BLAESY.