

915,836.

K. DOUGAN.  
GASOLENE TORCH.  
APPLICATION FILED JULY 6, 1908.

Patented Mar. 23, 1909.

2 SHEETS—SHEET 1.

Fig. 1

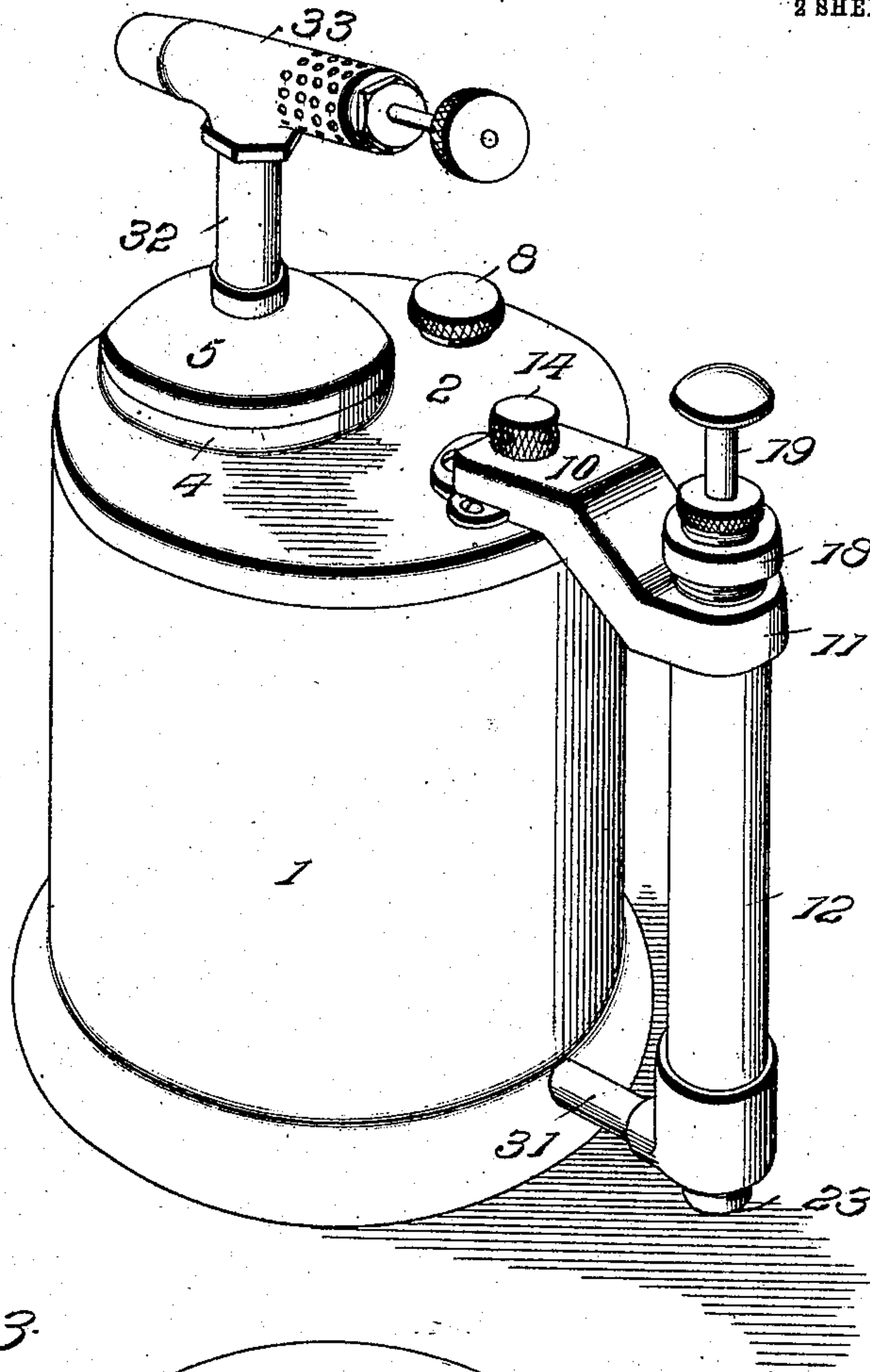
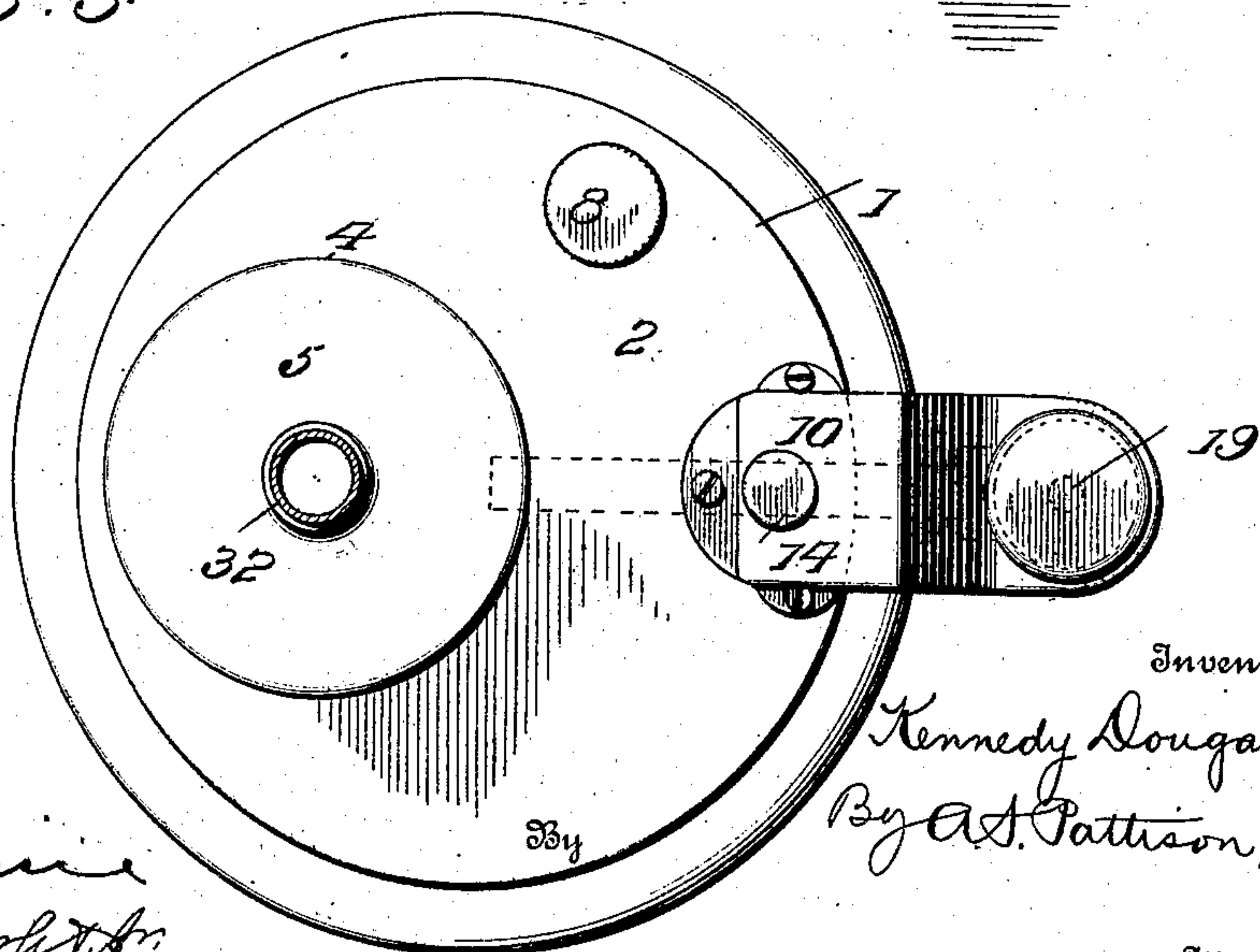


Fig. 3



Witnesses

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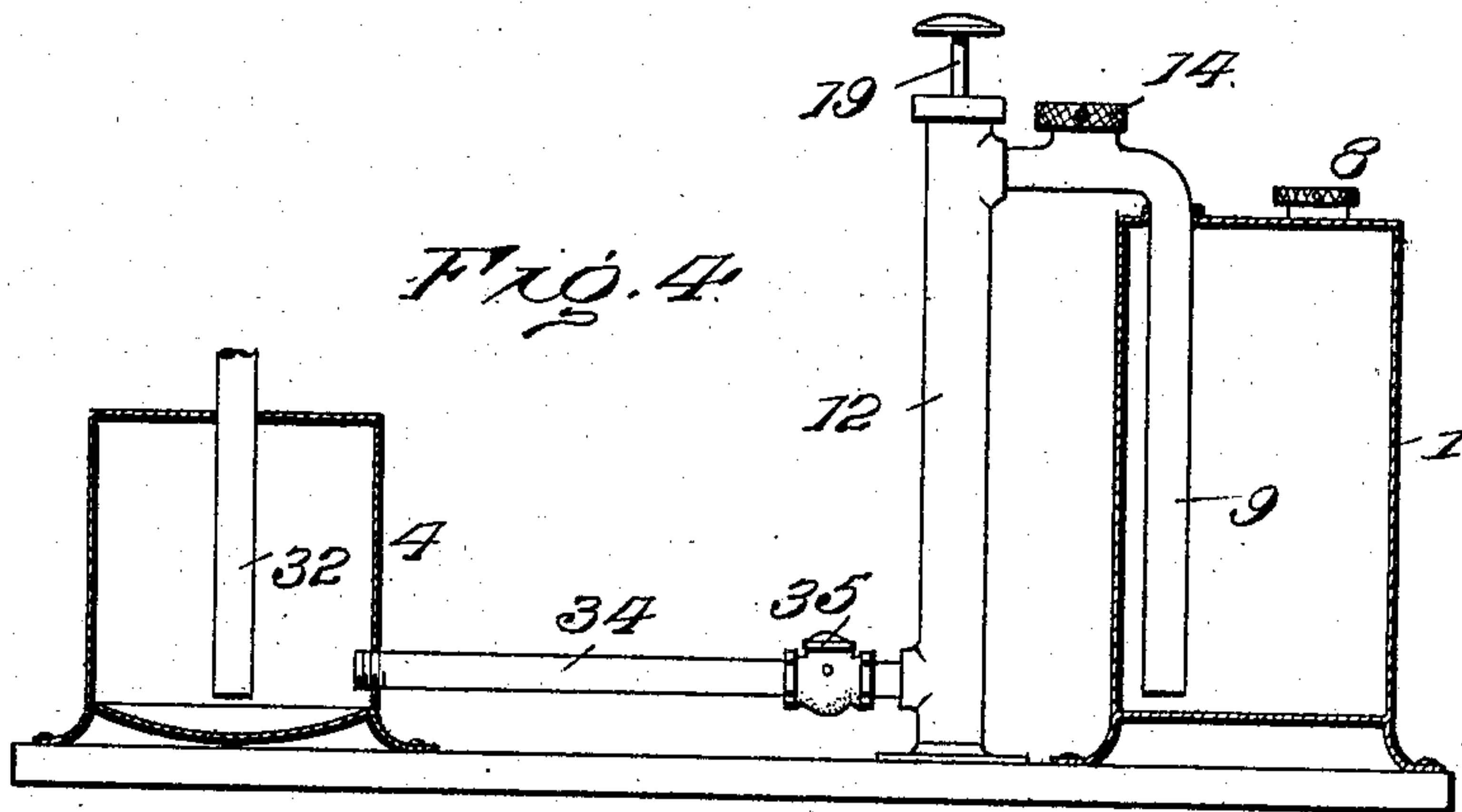
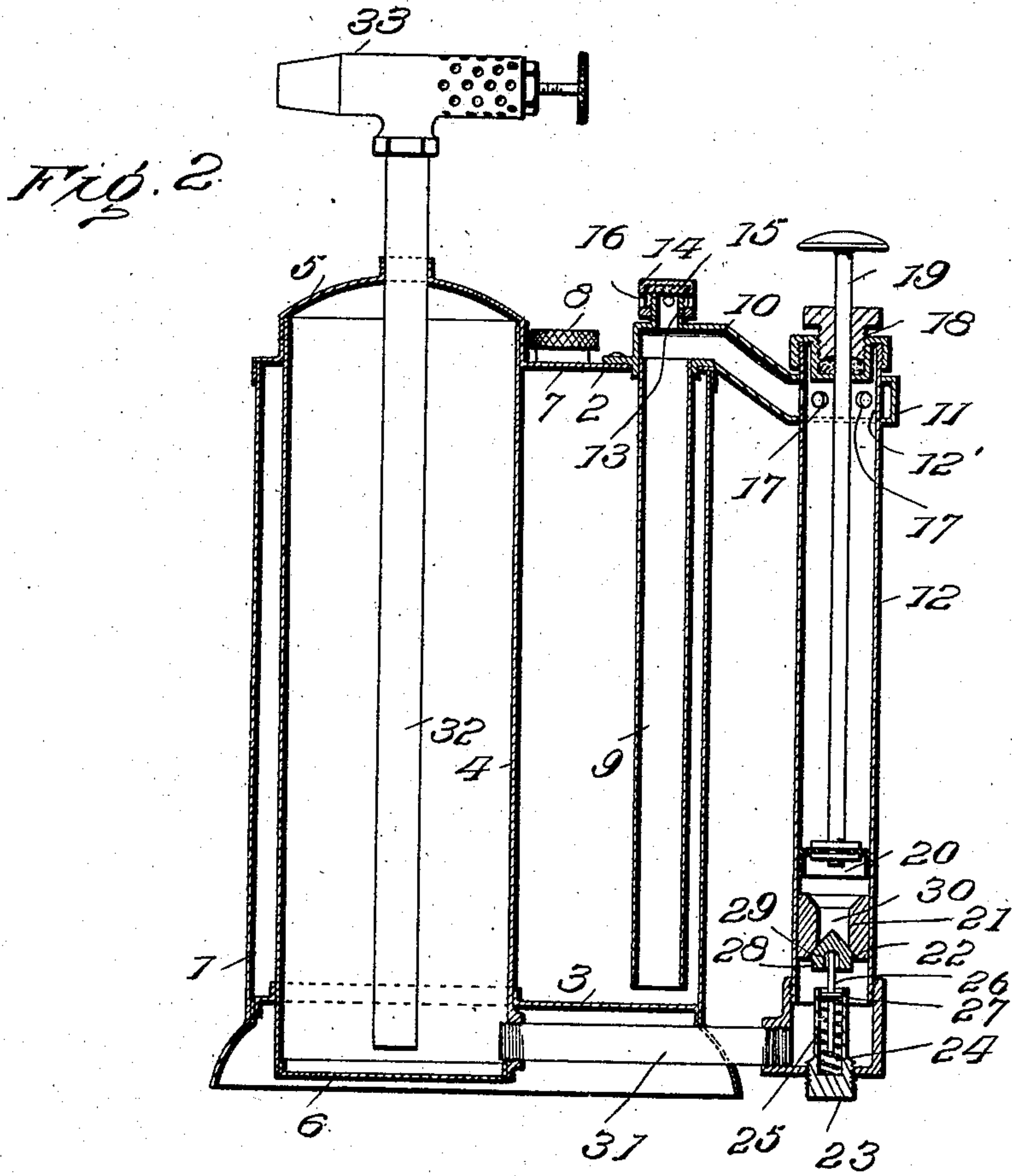
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# UNITED STATES PATENT OFFICE.

KENNEDY DOUGAN, OF MINNEAPOLIS, MINNESOTA.

## GASOLENE-TORCH.

No. 915,836.

Specification of Letters Patent.

Patented March 23, 1909.

Application filed July 6, 1906. Serial No. 325,035.

*To all whom it may concern:*

Be it known that I, KENNEDY DOUGAN, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Gasolene-Torches, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in gasolene torches, and pertains more particularly to those used by tinnerns, plumbers and painters.

The object of my invention is to provide a gasolene torch in which the required air pressure can at all times be maintained, thus insuring of a more even feed of gasolene to the burner, and necessarily a constant and uniform flame.

Another object of my invention is to provide a torch of this character, which can be more easily filled, and which can also be filled while in operation.

A still further object of my invention is to provide a torch in which the pump, tank and pressure reservoir are in a light compact form, and having means whereby either air or gasolene may be pumped to the pressure reservoir as required.

In the accompanying drawings, Figure 1, is a perspective view of my improved torch. Fig. 2, is a vertical sectional view. Fig. 3, is a top plan view of Fig. 1, and Fig. 4, is a side elevation partly in section, of a modification.

Referring now to the drawings, 1 represents a cylindrical gasolene reservoir, which is arranged in a vertical position, and is closed by the top and bottom 2 and 3. Arranged within said gasolene reservoir is an air and gasolene pressure reservoir 4 which extends through the top and bottom 2 and 3 of the gasolene reservoir, and is closed by the top and bottom 5 and 6. The gasolene reservoir is provided with a filling orifice 7 which is closed by a screw-cap 8. Extending inwardly through the top 2 of the gasolene reservoir 1, is a suction pipe 9 which extends downwardly adjacent the bottom 3 of the reservoir. Connected to the upper end of the said suction pipe 9 on the outside of the reservoir, is a conduit 10 which is provided with the enlarged rounded portion 11 which surrounds the upper end 12' of the pump barrel 12. The said conduit above the suction tube 9 is provided with an upwardly-extending tube 13, and has a cap 14 screwed

therein in which is a cork disk 15 to form a tight joint between the tube and the cap. The cap is provided with holes 16 which allow of the inrush of air to the tube when the cap is screwed upwardly, the object and operation of which will be hereinafter more fully described.

The pump barrel 12, as heretofore stated, extends through the rounded enlarged portion 11 of the conduit 10 and said barrel is provided with openings 17 communicating with the conduit, and through which either the oil or air passes to the pump barrel. The upper end of the pump barrel is provided at its upper end with a stuffing box 18 through which passes the pump rod 19 carrying at its lower end the pump sucker 20. Rigidly secured within the lower end of the pump barrel 12 is a block 21 having a valve seat 22. The lower end of the pump barrel has a plug 23 screwed therethrough, and extending upwardly within the same. The said plug is provided with a vertical recess 24 in which is arranged a coil spring 25, and extending within said recess and through the coil spring, is the valve stem 26 which is provided with a stop 27 engaged by the upper end of the coil spring, and by means of which the stem is normally held in an upward position. The upper end of the stem 26 passes into a recess 28 of the valve 29, the said valve is seated in the valve seat 22, and normally closes the opening 30 through the plug.

Secured to one side of the lower end of the pump barrel and in communication therewith, is a pipe 31 which extends below the gasolene reservoir, and in communication with the air and gasolene pressure chamber adjacent its lower extended end.

Extending downward through the top 5 of the gasolene and air pressure reservoir 4, is a pipe 32 which extends down adjacent the lower end thereof. The upper end of said pipe 32 carries the burner 33 which is of any well-known structure, as this forms no part of my invention, as the object of my invention is to provide a torch wherein an even and constant supply of oil is fed to the burner.

In Fig. 4, I have shown a modification in which the same principles are involved, but instead of having the two reservoirs one within the other, they are separated. The oil reservoir in the modification is placed upon one side of the pump 12, and the pressure reservoir on the opposite side. The



communication between the pump and oil reservoir is the same as that of the preferred form, but the pump is slightly changed as the automatic valve 35 is not carried there-  
 5 by, but is carried by the pipe 34 communicating with the pump and the pressure reservoir, as indicated at 35.

In operation, the tank 1 is filled with oil through the orifice 7, and the cap is then  
 10 placed thereon and the torch is practically in readiness for use. When it is desired to light or place the torch in condition for immediate use, the cap 14 is unscrewed, so that air enters the conduit 10 and passes into the  
 15 pump, and is pumped out through the valve 29, and into the pipe 31 to the pressure reservoir, where the air is compressed. After the proper pressure is obtained therein the cap 14 is screwed tightly down and the cap 7 of  
 20 the oil chamber is removed or loosened, so as to admit air to the tank. The pump is then worked, which draws the oil from the reservoir through the pipe 10 to the pump, and then forces it out through the pipe 31 to the  
 25 pressure reservoir or tank at its lower end and compresses the air thereabove until the desired pressure is obtained. The oil by this pressure, is forced out through the pipe 32 to the burner, and by working the pump  
 30 occasionally, the oil is forced into the tank and proper pressure retained.

By the structure above described, the proper pressure can at all times be retained within the pressure tank, and the burner  
 35 does not have to be extinguished to fill the gasoline reservoir, as its communication with the pressure reservoir is closed through the check valve in the pump, and thus the filling of the tank does not reduce the pres-  
 40 sure within the pressure reservoir.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is:—

1. An apparatus of the character de-  
 45 scribed, comprising an oil reservoir having a filling orifice, a pressure reservoir extending through the oil reservoir, a pipe entering the upper end of the oil reservoir and extend-  
 ing adjacent the bottom thereof, a pump  
 50 barrel extending transversely through the said pipe and having openings therein communicating with the said pipe, the said pipe having an air port, means for controlling  
 said port, an automatically-closing valve  
 55 within the lower end of the pump barrel, a pipe in communication with the pump barrel below the valve and having its opposite end in communication with the pressure reser-  
 voir, and a burner supply pipe entering the  
 60 upper end of the pressure chamber and ex-

tending to the lower end, and a burner carried by the upper end of the said pipe.

2. An apparatus of the character de-  
 scribed, comprising an oil reservoir, a pres-  
 65 sure reservoir within the oil reservoir, a pump on the outside of the oil reservoir and in permanent communication with the lower  
 end by means of a pipe, said pipe having an  
 air inlet, a cap for closing said air inlet, a  
 pipe communicating with the lower end of  
 70 the pump and extending below the oil reservoir, and communicating with the pressure reservoir, and an automatic check valve controlling the last named pipe.

3. An apparatus of the character de- 75  
 scribed, comprising an oil reservoir, a pressure reservoir, a pump adjacent the same, a pipe connected to the upper end of the pump and passing through the upper end of the  
 oil reservoir and extending adjacent the  
 80 lower end thereof, said pipe intermediate the pump and reservoir having an upwardly extending tube having openings therein, a cap  
 screwed upon said tube and having openings  
 85 adapted to register with the openings in the tubes, a pipe connected to the lower end of the pump and the lower end of the pressure  
 reservoir forming a rigid connection between  
 the pump and oil reservoir, and a check valve  
 90 for allowing air or oil to be forced from the pump to the pressure reservoir and prevent-  
 ing back pressure.

4. An apparatus of the character de-  
 scribed, comprising an oil reservoir, a pres-  
 95 sure reservoir extending therethrough, a pump adjacent the oil reservoir, and parallel therewith, a pipe connected to the upper end of the pump and passing through the upper  
 end of the oil reservoir, and extending ad-  
 100 jacent the lower end thereof, said pipe intermediate the pump and reservoir having an upwardly-extending tube having openings  
 therein, a cap screwed upon said tube and  
 having openings adapted to register with the  
 105 openings in the tube, a pipe connected to the lower end of the pump and the lower end of the pressure reservoir below the oil tank, and  
 the two pipes forming rigid connections be-  
 tween the reservoirs and the pump, a check  
 valve for allowing air or oil to be forced from  
 110 the lower end of the pump to the pressure reservoir, and preventing back pressure, and  
 a burner having a pipe extending within the pressure reservoir.

In testimony whereof I affix my signature 115  
 in presence of two witnesses.

KENNEDY DOUGAN.

Witnesses:

E. E. WITCHIE,  
 H. MCGUIRE.