

No. 661,511.

Patented Nov. 13, 1900.

E. C. FOWLER.  
ACETYLENE GAS LAMP.

(Application filed Oct. 28, 1899.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1.

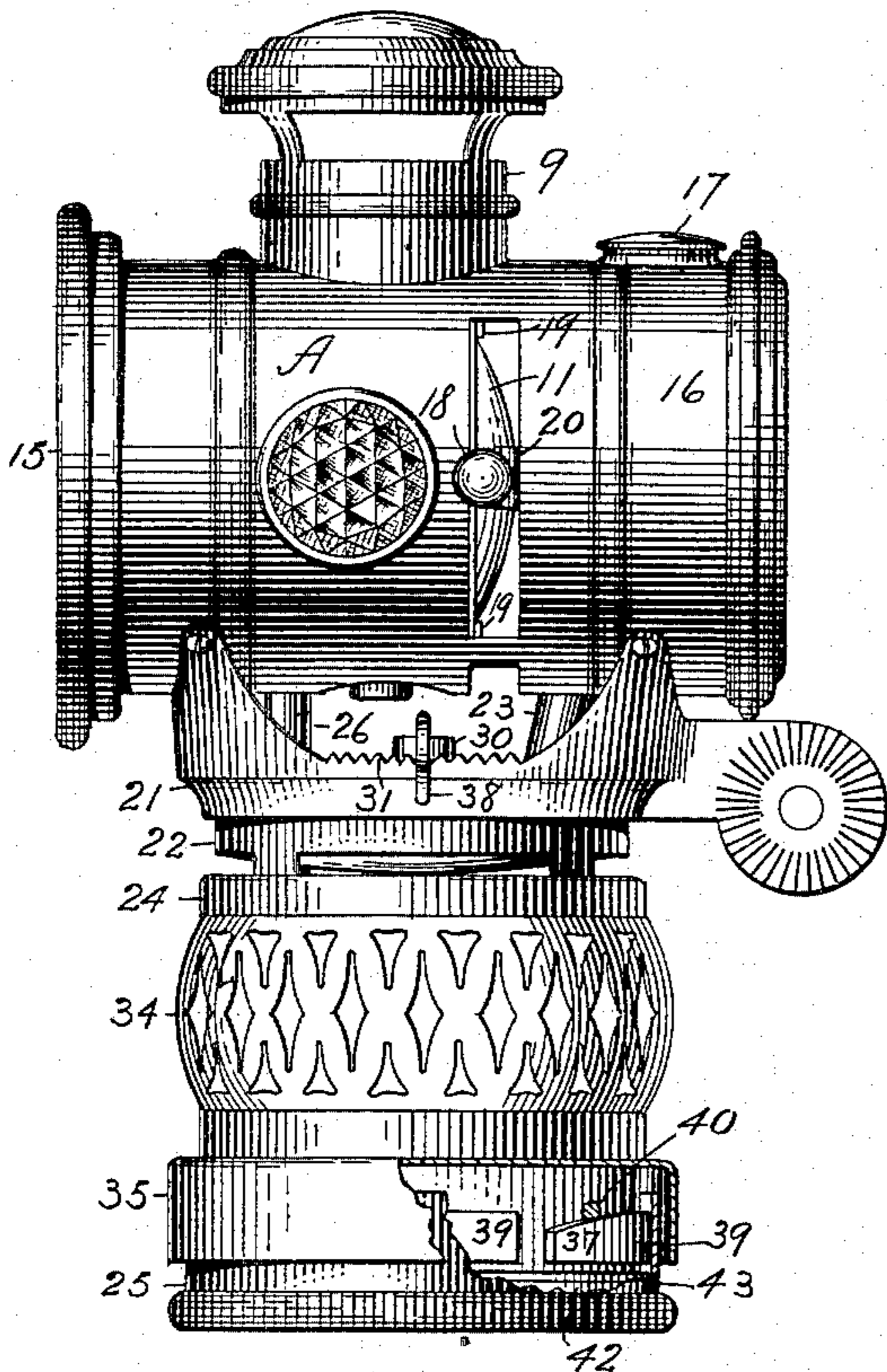
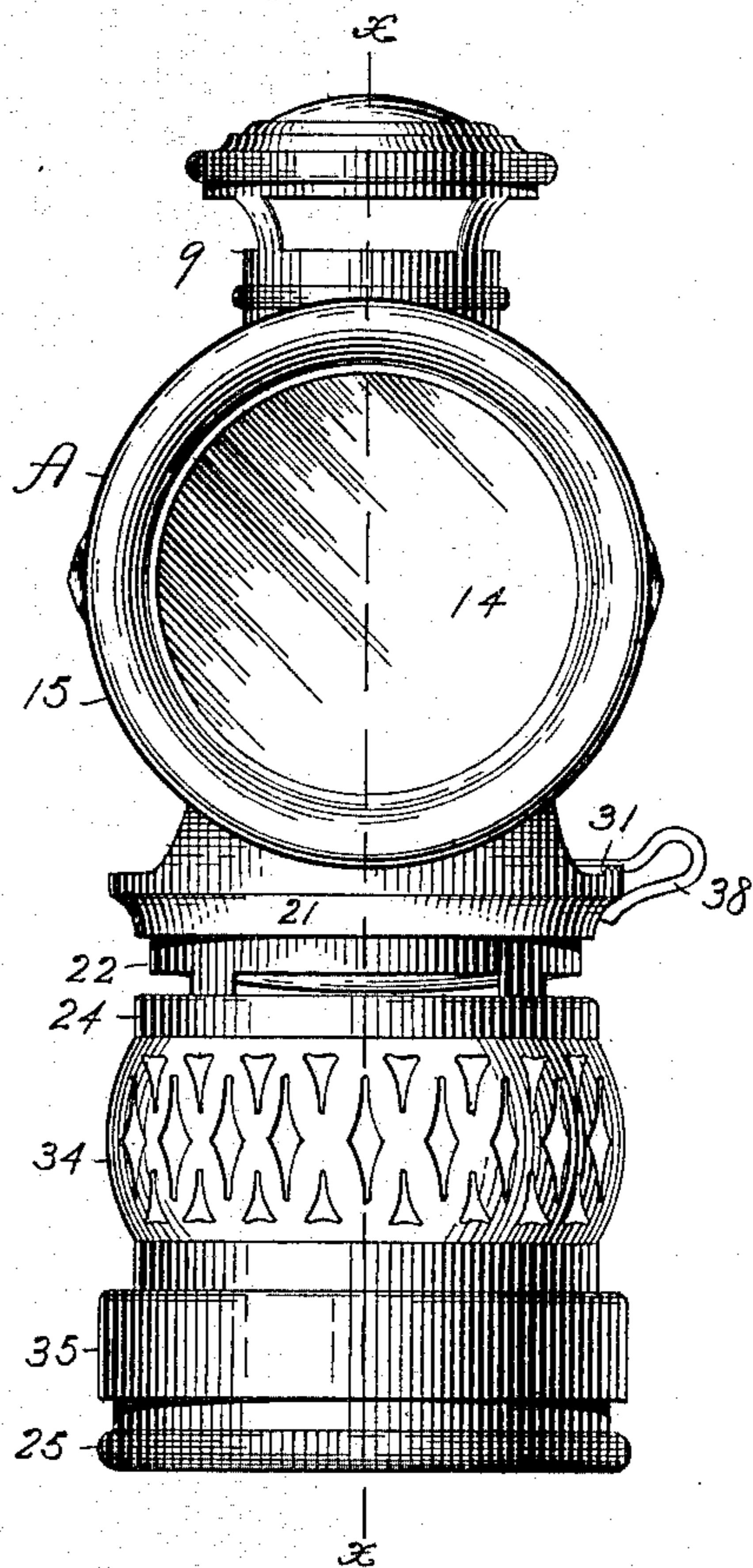


Fig. 2.



Witnesses

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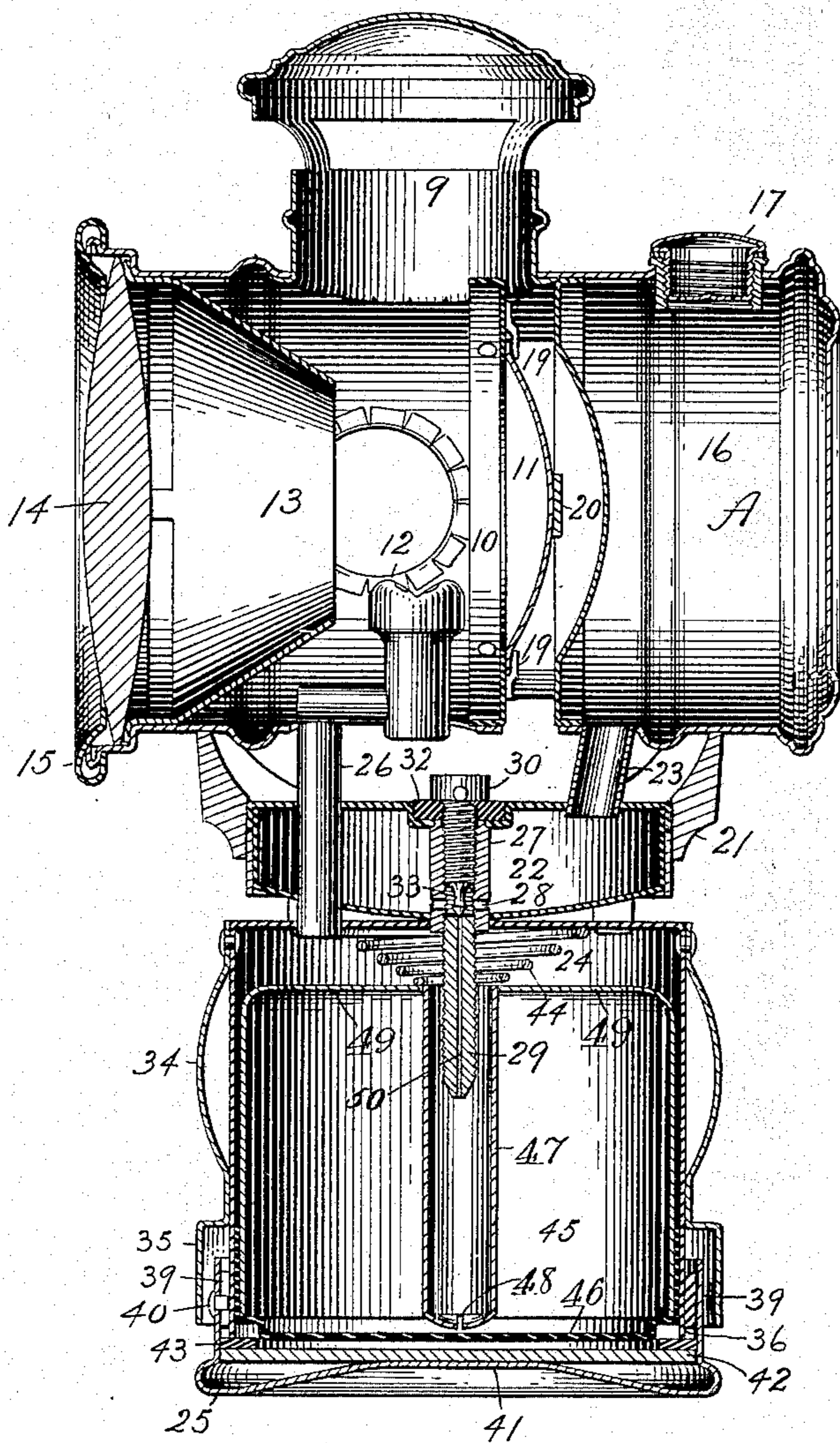
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Fig. 3.



WITNESSES

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3 Sheets—Sheet 3.

Fig. 4.

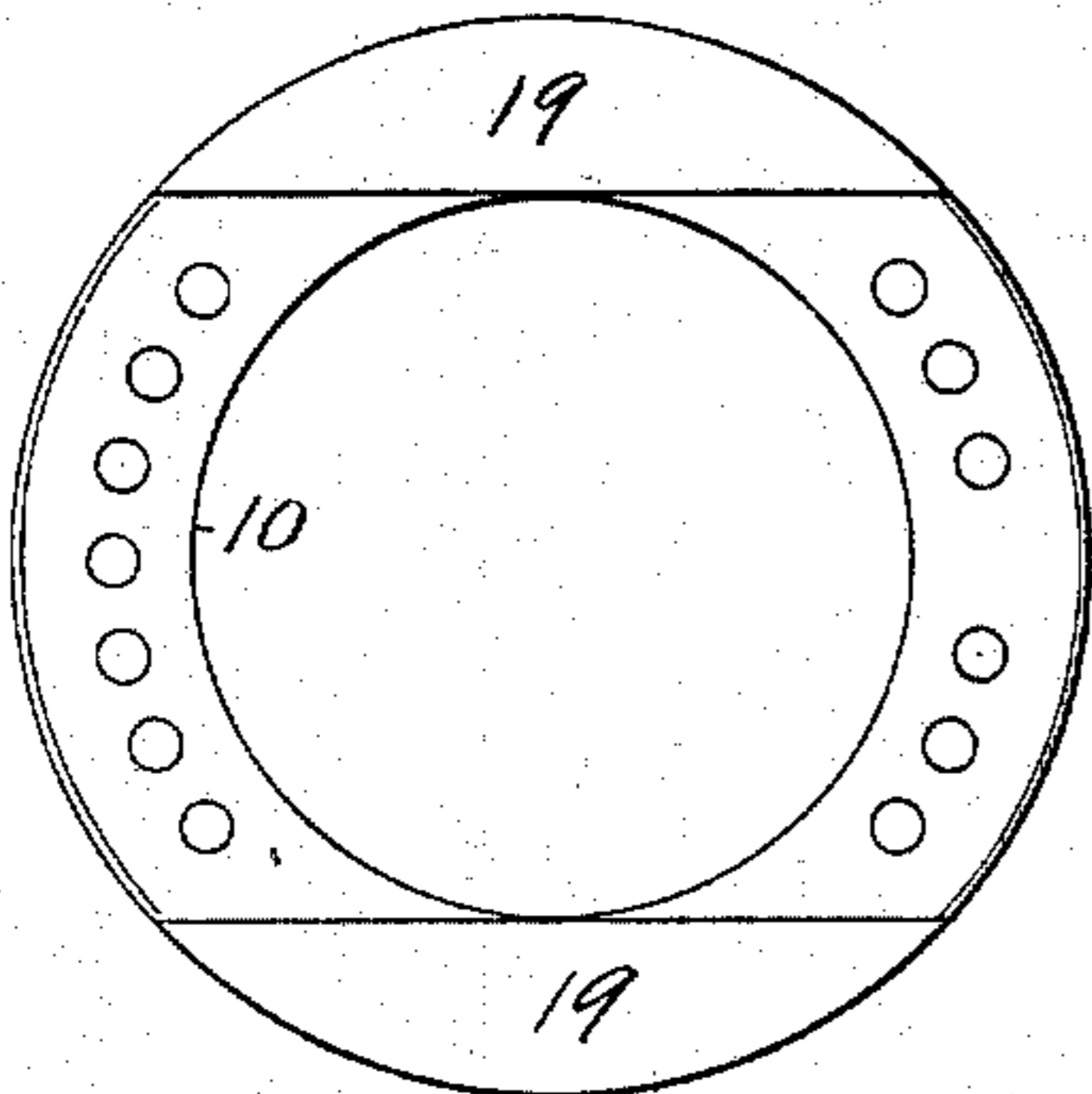


Fig. 5.

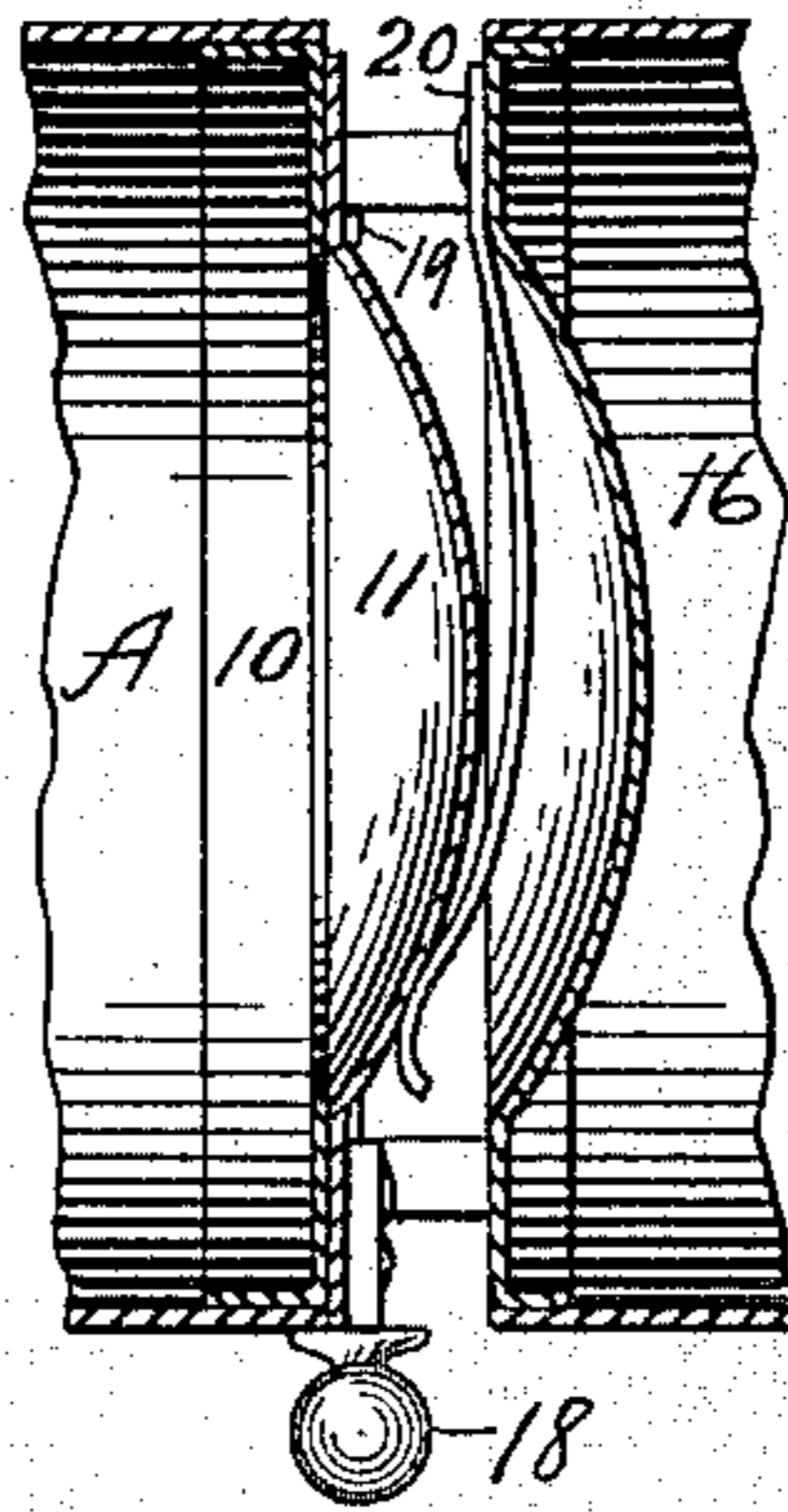


Fig. 6.

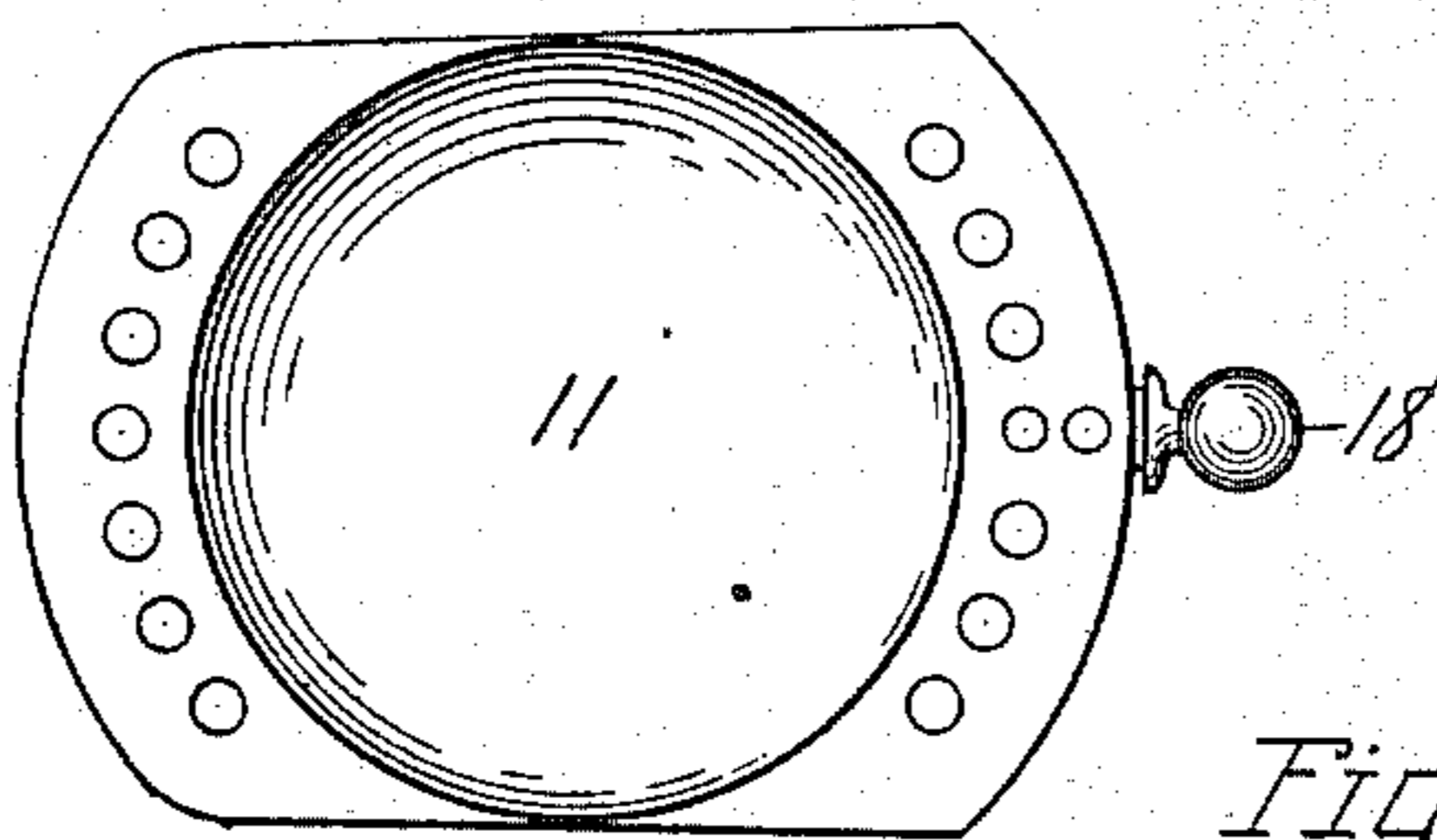


Fig. 7.

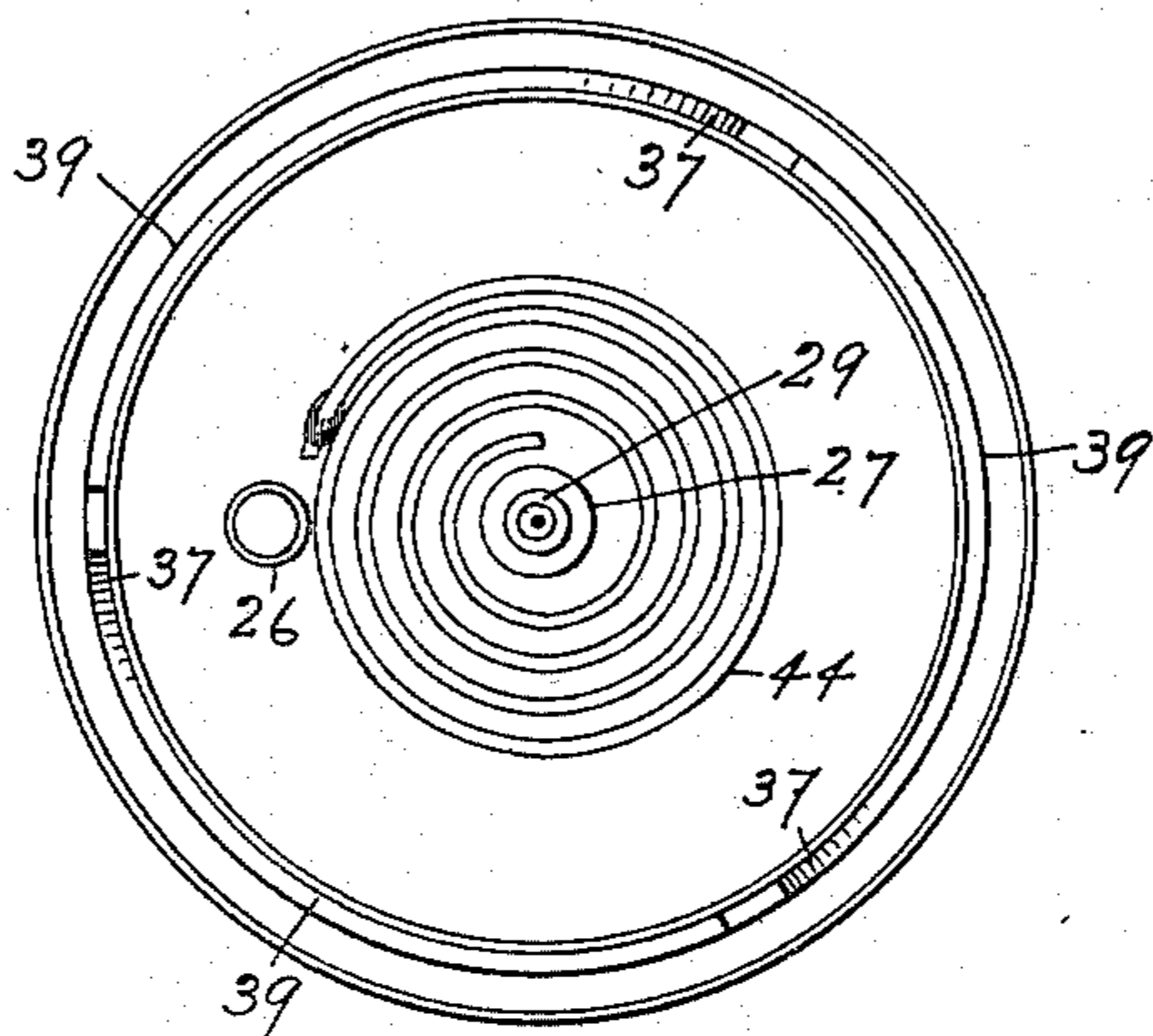
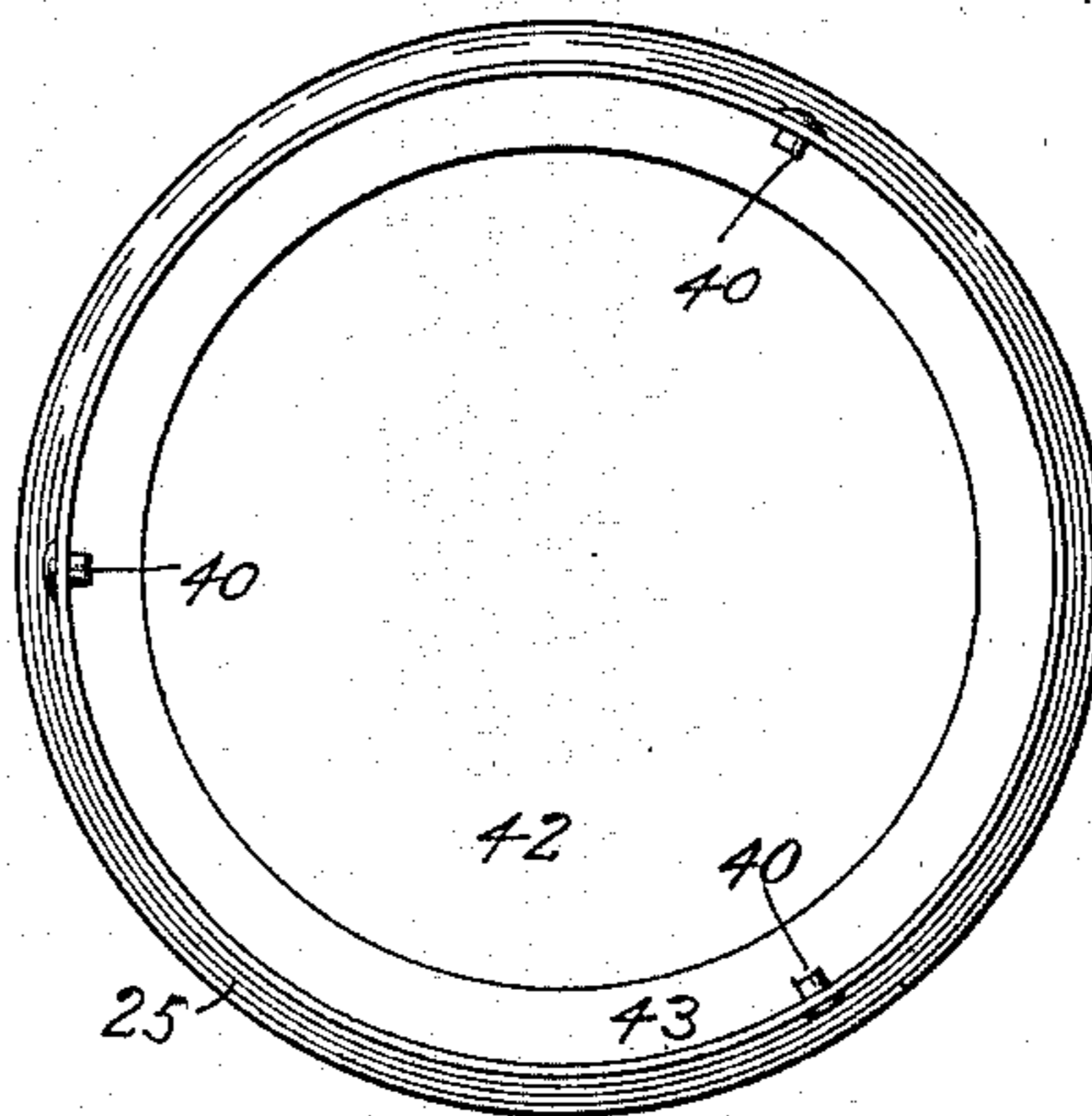


Fig. 8.



Witnesses

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# UNITED STATES PATENT OFFICE.

EDWARD C. FOWLER, OF BRISTOL, CONNECTICUT, ASSIGNOR TO THE  
BRISTOL BRASS AND CLOCK COMPANY, OF SAME PLACE.

## ACETYLENE-GAS LAMP.

SPECIFICATION forming part of Letters Patent No. 661,511, dated November 13, 1900.

Application filed October 28, 1899. Serial No. 735,048. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD C. FOWLER, a citizen of the United States, residing in Bristol, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Acetylene-Gas Lamps, of which the following is a specification.

My invention relates to improvements in acetylene-gas lamps for vehicles; and the objects of my improvements are simplicity and economy in construction and convenience and efficiency of the article.

In the accompanying drawings, Figure 1 is a side elevation of my lamp, with a portion thereof near the bottom in sectional elevation. Fig. 2 is a front elevation of the same. Fig. 3 is a sectional view thereof on the line  $x x$  of Fig. 2, but partly in elevation. Fig. 4 is a detached rear elevation of the back reflector ring. Fig. 5 is a central horizontal section, partly in plan view, of the back-reflector and adjacent parts of the lamp. Fig. 6 is a front elevation of the back reflector. Fig. 7 is a reverse plan view of the gas-chamber with the carbide-holder removed, and Fig. 8 is a plan view of the base of the gas-chamber.

The complete lamp is substantially T-shaped in side view. A designates a horizontal cylinder, which is surmounted by a dome 9. Under the dome and near the middle of the said cylinder are the back-reflector ring 10 and back reflector 11, in front of which is the burner-chamber, having the gas-burner 12, cone-reflector 13, lens 14, and lens-ring 15, which are mainly of an ordinary construction and need not be specifically described. In the rear end of the horizontal cylinder A is the upper or main water-chamber 16, the same being provided at the top with a filling-orifice and cap 17. The sides of the said horizontal cylinder are left open just back of the back-reflector ring 10, so that the back reflector 11 may be inserted and removed through one of said openings. The said reflector is provided with a handle 18 and is of the usual concave form in its middle portion, while its top and bottom edges are left straight, as shown in Fig. 6, to enable the said reflector to be guided by the ways 19 on the back of the back reflector-ring. A spring 20 is secured by one end to the front wall of

the main water-chamber 16 and projects into the path of the back reflector, so as to extend over and press upon the conical side of its central portion, as shown in Fig. 5, whereby the said reflector can at any time be readily and conveniently removed for cleaning and readily replaced.

Underneath the horizontal cylinder A is an upright or vertically-arranged portion, at the upper end of which is a ring-frame 21, within which is a supplemental water-chamber 22, that communicates with the main water-chamber 16 by means of the tube or pipe 23. Underneath the supplemental water-chamber and concentric thereto is the gas-chamber 24, with a removable base 25. A suitable connecting pipe or tube 26 leads from the interior of the gas-chamber 24 through the water-chamber 22 to the burner 12.

In the center of the supplemental water-chamber 22 is a vertical valve-socket 27, Fig. 3, with the central bore or orifice through it threaded from end to end and with a transverse opening or openings 28 near the bottom of the water-chamber, that extend through to its central bore. The tubular plug 29, the upper end of which serves as a valve-seat, is exteriorly threaded and is screwed into the lower end of the valve-socket 27, while the conical valve 30 is correspondingly threaded and is screwed into the upper end of said socket, with its upper end projecting above the chamber 22 and provided with a resilient handle 38, (represented as removed from Fig. 3,) that extends to the outer part of the ring-frame 21 and bears upon the holding-notches 31, formed in the said frame, whereby moving the said handle from notch to notch or over several notches will partially rotate the valve to screw it either out or in, as may be desired. A rubber or other packing 32 may be placed around the upper end of the valve 30, as shown in Fig. 3. As shown in Fig. 1, the extreme right-hand one of the notches 31 represents the closed portion of the valve or what I may term its "zero-notch." In assembling the parts the valve is screwed in and its handle inserted and then turned to zero. Then the tubular plug 29, the upper end of which forms the valve-seat, is screwed in until it presses against the valve, so as to close it tightly. In this way it is very easy to ad-

just the parts so as to insure a closed valve when the handle is in the zero-notch. The valve is provided with a reduced neck 33 between its conical end and its body in order  
5 that the water may always have free access to the said conical end. The tubular plug 29, like all other tubes, has a longitudinal passage 50 therethrough.

The exterior of the gas-chamber 24, as  
10 shown, is provided with a hood 34, having a skirt 35, and slightly above the bottom end 36 of said gas-chamber there are three cam-  
ledges 39, slightly separated at their con-  
fronting ends to form notches and all tapered  
15 at one end 37, as shown in Fig. 1. The flanged base 25 shuts over the outer sides of the cam-  
ledges 39 and is provided on the inner side of its flange with pins or projections  
40, (one of which is shown in section in Fig.  
20 1,) that pass through the spaces or notches between the cam-  
ledges and over the tapering ends of said ledges, whereby by turning the  
base to force the pins up the taper of said  
25 ledges the base may be very firmly secured to the lower end of the gas-chamber; but in-  
stead of having the bottom of the base di-  
rectly engage the bottom end 36 of the gas-  
chamber I form an inner central projection or  
30 hub 41 on said base, and on the said projec-  
tion I place a disk 42 and suitable packing  
43 for pressing against said bottom end 36,  
whereby the disk and packing may rock and  
tip to adjust themselves to the said bottom  
35 end, and, further, the said disk and packing  
may be held against rotation by the friction  
of said bottom end while the base is par-  
tially rotated to tighten it in place, thereby  
not only insuring a tight joint, but also mak-  
40 ing a joint that is readily detachable, al-  
though it may become clogged. In other  
words, if the disk and bottom end of the gas-  
chamber become stuck together by gas or cor-  
rosion the base can easily be turned for de-  
taching without turning the disk, because  
45 there is so little friction between the central  
projection 41 of the said base and the said  
disk. The carbide-holder 45, Fig. 3, that is  
placed within the gas-chamber, is of an ordi-  
nary construction, and it is held against rat-  
50 tling by means of the spring 44, while at the  
same time the spring will yield and permit  
the carbide-holder to expand. This ordinary  
carbide-holder consists of the main body or  
holder 45, a removable flanged bottom 46,  
55 that shuts over the lower end of the carbide-  
holder telescopic fashion to permit expan-  
sion, and a central tube 47 to receive the  
lower end of the tubular plug 29, the lower  
end of the said tube being perforated or slit,  
60 as at 48, to allow the water to flow into the  
carbide-holder. The gas passes out through  
two or more small holes 49 in the top of the  
carbide-holder and then through the tube 26  
to the burner 12.

65 It is apparent that some changes from the  
specific construction herein disclosed may be  
made, and therefore I do not wish to be un-

derstood as limiting myself to the precise  
form of construction shown and described,  
but desire the liberty to make such changes 70  
in working my invention as may fairly come  
within the spirit and scope of the same.

I claim as my invention—

1. An acetylene-gas lamp, substantially T-  
shaped in side view having in combination 75  
the horizontal cylinder provided with the  
burner-chamber at one end and the main wa-  
ter-chamber at the other, the upright cylin-  
drical portion containing the supplemental  
water-chamber and gas-chamber, the said 80  
supplemental water-chamber being arranged  
at the upper end of the said upright cylin-  
drical portion underneath the said horizon-  
tal cylinder above the said gas-chamber and  
having a communicating pipe connecting the 85  
said water-chambers and a valve within the  
said supplemental water-chamber leading  
from the bottom thereof to the said gas-cham-  
ber, substantially as described.

2. The combination of the water-chamber 90  
22 with the valve-socket interiorly threaded  
and provided with a transverse opening com-  
municating with said chamber, the valve 30  
screwed into one end of the said socket, the  
adjustable tubular plug the upper end of 95  
which serves as a valve-seat screwed into the  
other end of said socket and means for par-  
tially rotating said valve and holding it in  
the position into which it may be partially ro-  
tated, substantially as described. 100

3. The combination of the water-chamber  
22 with the valve-socket interiorly threaded  
and provided with an opening communicat-  
ing with the said chamber, the valve 30  
screwed into one end of the said socket, an 105  
operating-handle projecting from the said  
valve, a part rigidly mounted relatively to  
the said water-chamber and provided with a  
series of holding-notches for the said operat-  
ing-handle, and an adjustable valve-seat for 110  
the said valve whereby the said seat may be  
adjusted to insure the tight closing of the  
valve when the handle is placed in its zero-  
notch, substantially as described.

4. In an acetylene-gas lamp, the combination 115  
of the horizontal cylinder having the burner-  
chamber at one end and the main water-cham-  
ber at the other end, with the supplemental  
water-chamber and gas-chamber arranged in  
the form of a vertical cylindrical portion un- 120  
derneath the said horizontal cylinder, the  
said main and supplemental water-chambers  
having a communicating pipe, a carbide-holder  
within the gas-chamber having a water-inlet  
and gas-outlets, a valve within the supple- 125  
mental water-chamber for regulating the  
flow of water to the carbide-holder and a pipe  
leading from the gas-chamber to the burner-  
chamber of the horizontal cylinder, substan-  
tially as described.

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Witnesses:

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