

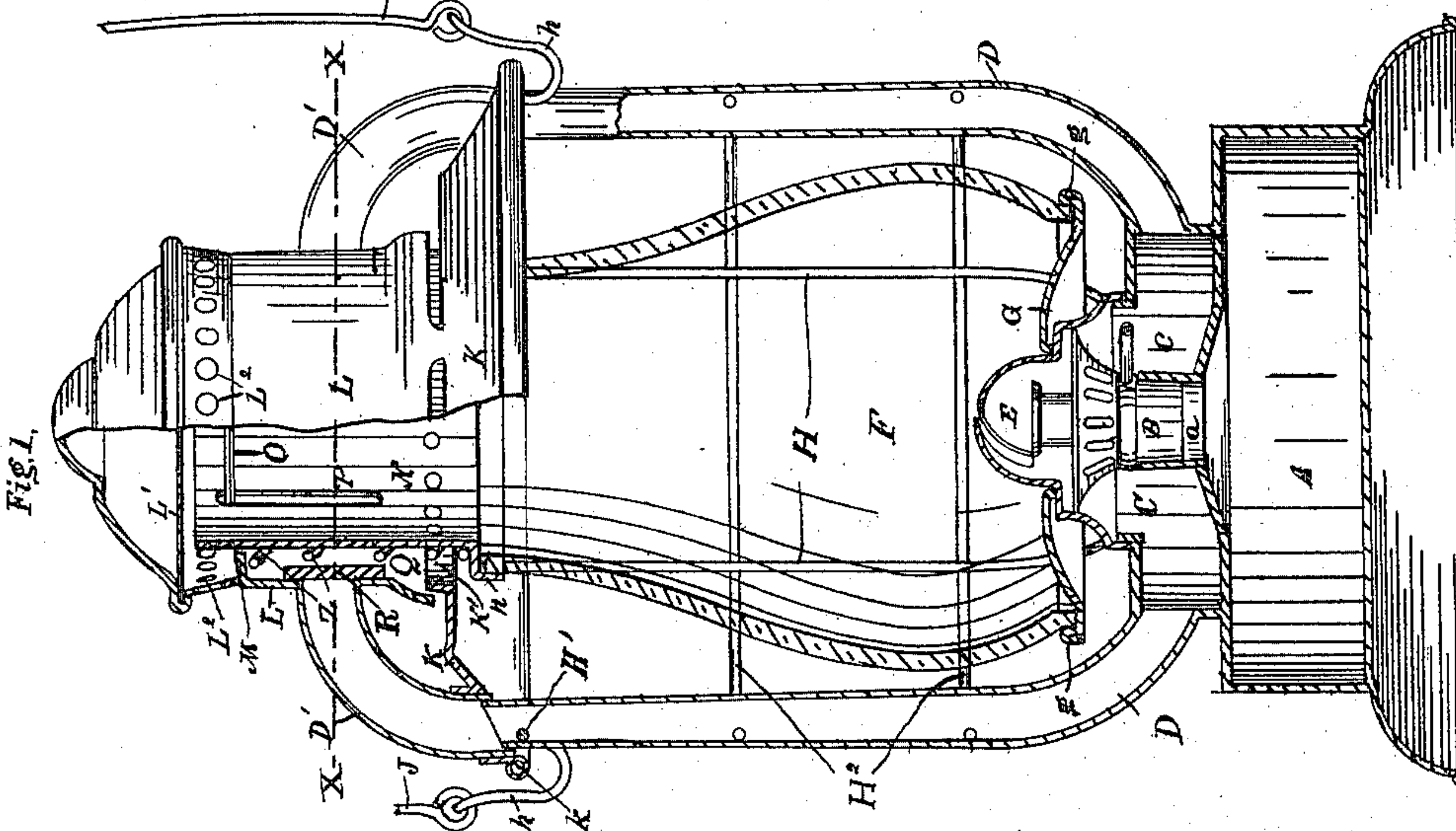
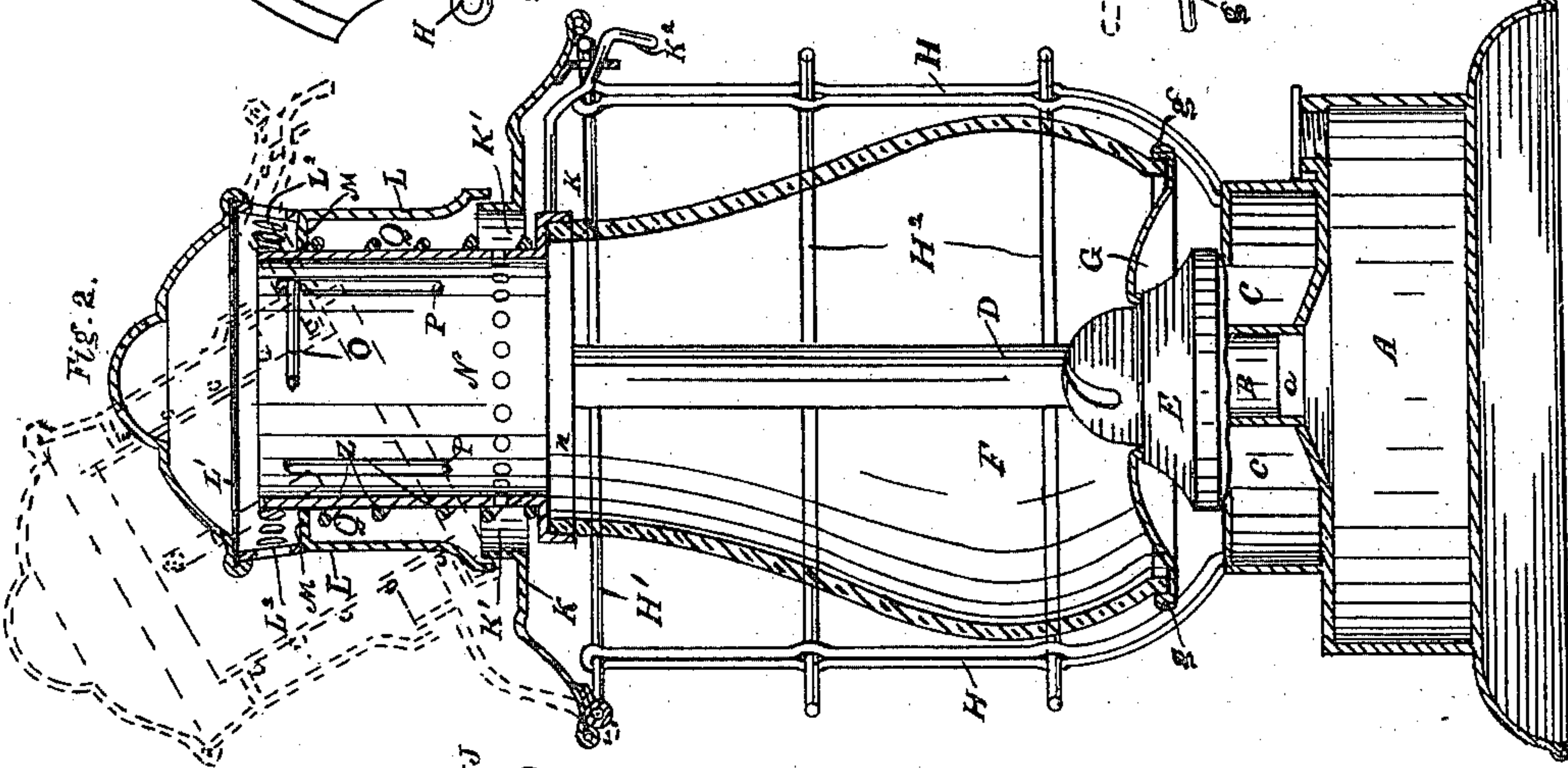
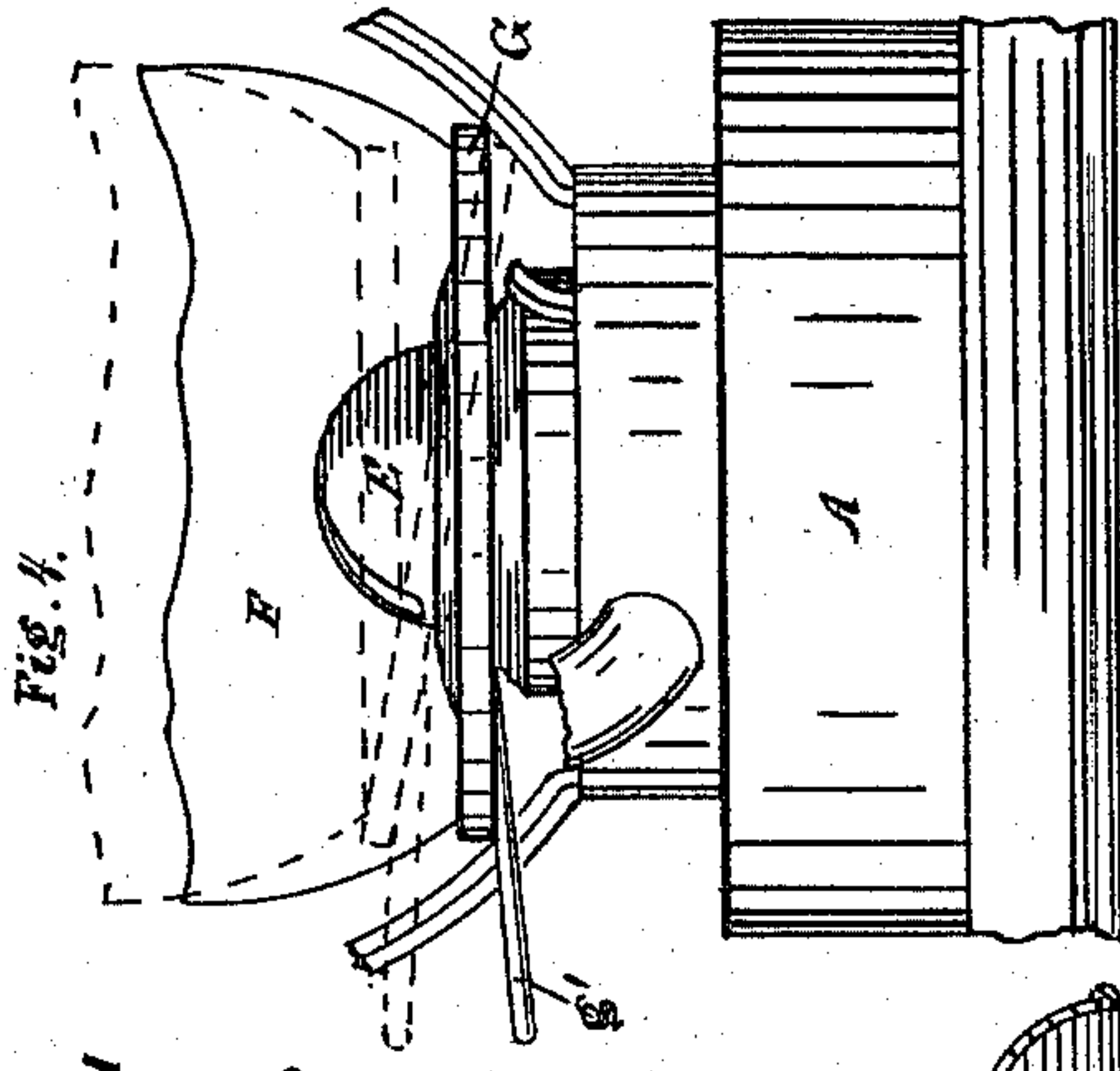
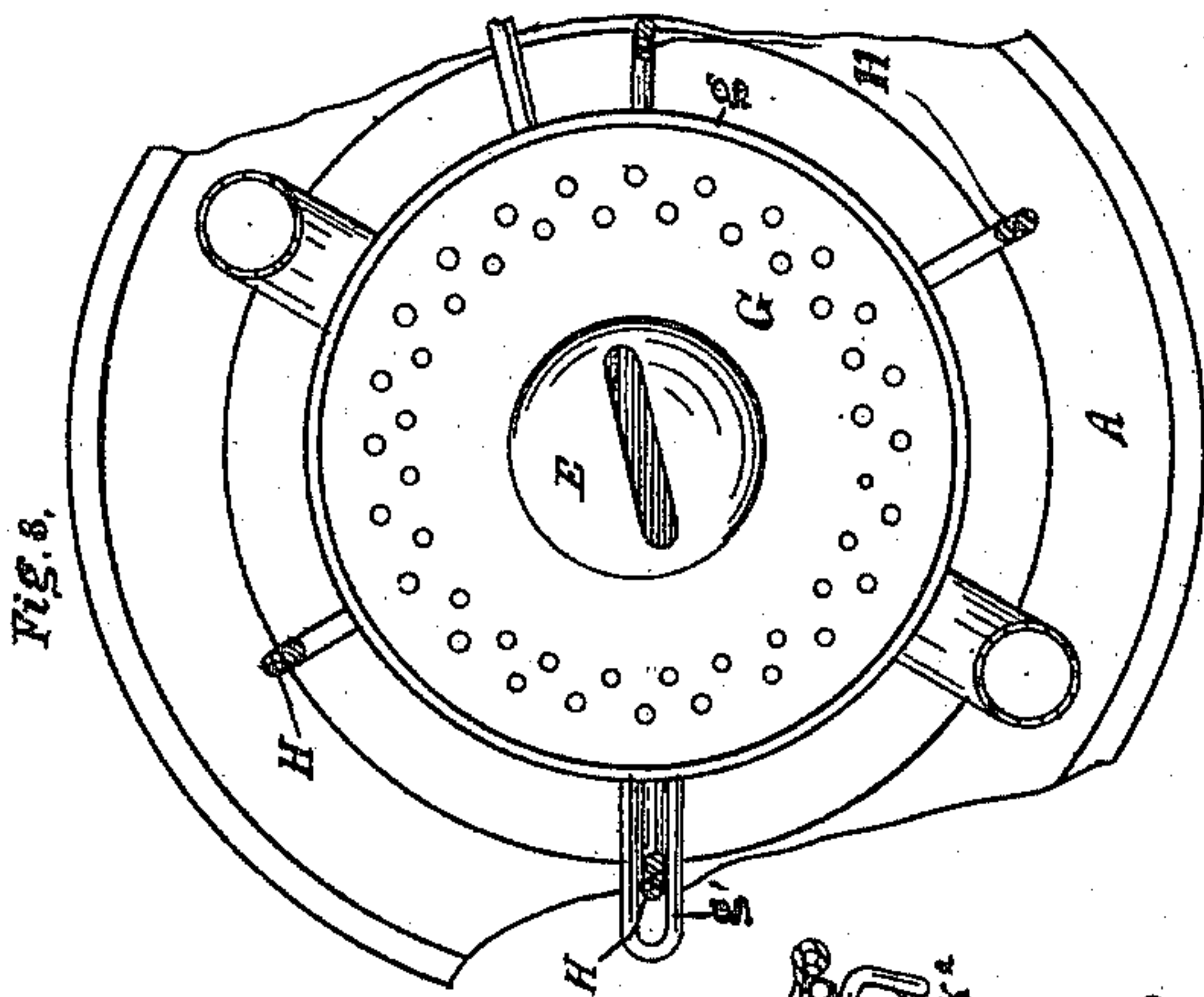
(No Model.)

2 Sheets—Sheet 1.

C. BERGENER.  
TUBULAR LANTERN.

No. 572,949.

Patented Dec. 15, 1896.



Witnesses.  
Thomas Durant  
Malcolm Murdoch

Inventor  
Charles Bergener  
by Churchill & Co.  
attys

(No Model.)

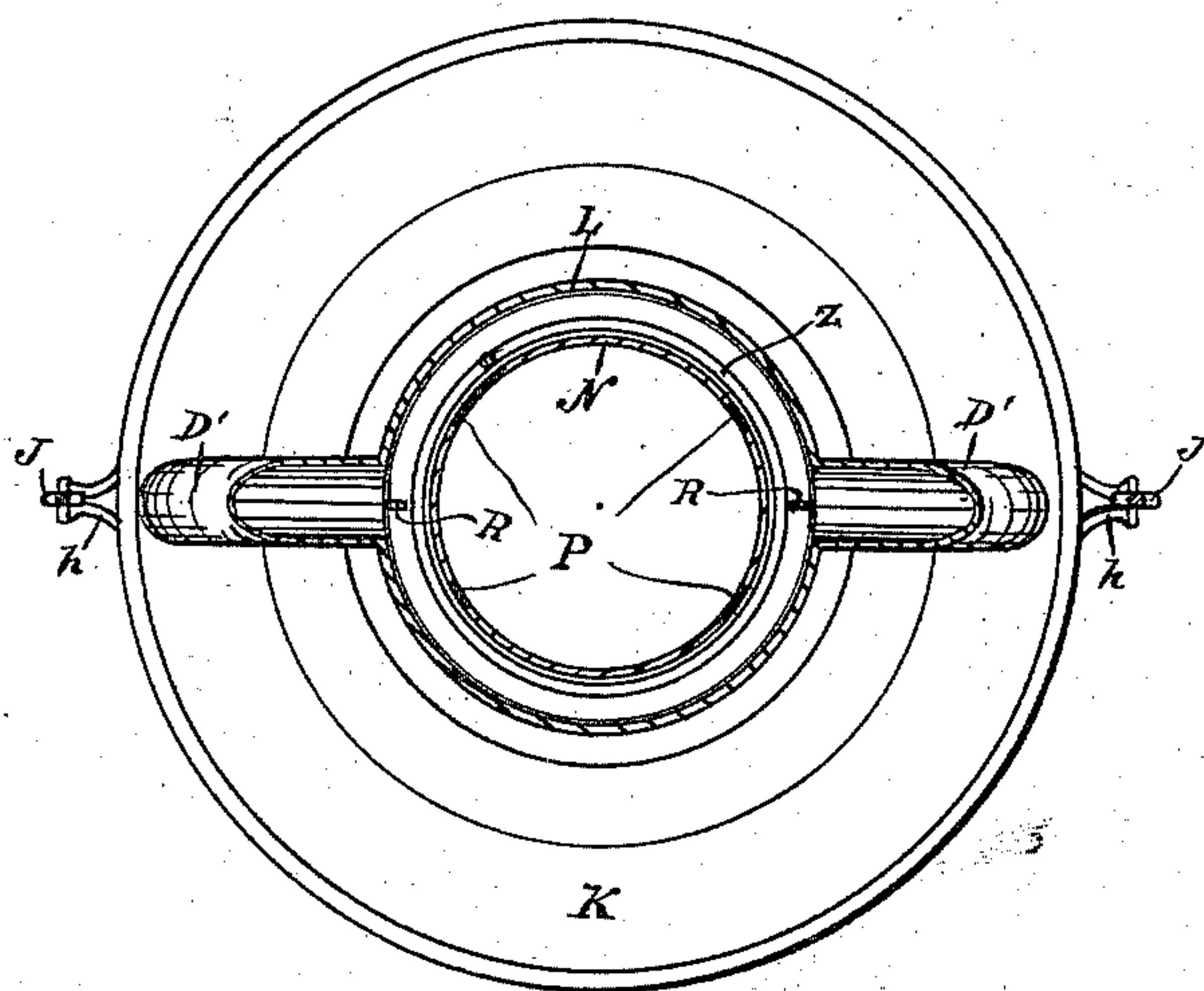
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Fig. 5



Witnesses.  
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Wallace Munday.

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Charles Berenger  
by Churchill  
his atty



# UNITED STATES PATENT OFFICE.

CHARLES BERGENER, OF ROCHESTER, NEW YORK, ASSIGNOR TO THE C. T. HAM MANUFACTURING COMPANY, OF SAME PLACE.

## TUBULAR LANTERN.

SPECIFICATION forming part of Letters Patent No. 572,949, dated December 15, 1896.

Application filed July 8, 1895. Serial No. 555,300. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES BERGENER, of Rochester, in the county of Monroe and State of New York, have invented certain new and  
5 useful Improvements in Tubular Lanterns; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying  
10 drawings, forming a part of this specification, and to the reference-letters marked thereon.

My present invention has for its object to provide an improved lantern particularly adapted for use on railroads, and in which the globe is adequately protected from breakage  
15 and the lantern-frame strong enough to sustain the shocks to which it is liable to be subjected, and one well adapted for the burning of ordinary kerosene without liability of being extinguished by high winds or shock; and  
20 to these and other ends it consists in certain improvements and combinations of parts, all as will be hereinafter fully described, and the novel features pointed out in the claims at the end of this specification.

In the drawings, Figure 1 is a sectional view of a lantern constructed in accordance with my invention, a portion of the upper part being shown in elevation; Fig. 2, a similar view taken at right angles to the plane of  
30 Fig. 1; Fig. 3, a horizontal sectional view with the globe removed; Fig. 4, a side elevation of the base, showing the globe-lifting device; Fig. 5, a horizontal sectional view on the line *x x* of Fig. 1.

35 Similar reference-letters indicate similar parts.

The base of the lantern is composed of the ordinary oil-pot A, having the usual neck *a*, into which fits the slip-burner B, C indicating  
40 the air-chamber around the burner with which the tubes D communicate, and E the burner-cone, fitting the top of the air-chamber.

F indicates the globe of the ordinary type used in railroad-lanterns, resting upon the  
45 perforated globe-plate G. This globe-plate differs from the ordinary form in having the outer portion upon which the globe rests slightly depressed, forming a slight groove between the central part and the peripheral  
50 bead or flange *g*, preventing the globe from

slipping laterally when one side of said plate and the globe are elevated for lighting, as will be described, and it is also provided with an operating-handle *g'*, formed of a wire loop, passing around one of the guard-wires H. 55

Secured to the base of the lantern and extending upwardly therefrom are the vertical guard-wires H, (preferably formed of doubled wires,) engaging a wire ring H' at the upper end, and between this ring and the base are  
60 arranged one or more horizontal wire guard-rings H<sup>2</sup>, passing through the vertical guards H and also through the air-tubes D, the whole forming a rigid and efficient basket or guard for the globe not liable to be broken. Se-  
65 cured also to the top ring H' are the wire ears *h*, to which the bail J is attached in the usual manner.

The upper or cover section of the lantern embodies a hood or deflecting-plate K, hinged  
70 at *k* to the ring H' and fastened at the opposite side by the ordinary spring-catch K<sup>2</sup>. This plate K is provided with a short collar K', and over it is arranged a dome L, with the lower portion slightly flaring and projecting  
75 a slight distance below the top of the collar K', while its upper end is covered by a plate L', and beneath said plate is a series of perforations L<sup>2</sup> for the escape of the products of combustion. A guide ring or flange M is ar-  
80 ranged inside the dome, through which projects the upper end of the sleeve or bell N, having the flange *n* at its lower end and resting upon the upper end of the globe.

Between the flange *n* and the ring M is ar-  
85 ranged a spiral spring Z, holding the globe pressed downward upon its plate, the motion of the sleeve being limited by a cross-pin O in the lantern-top passing through two of the vertical slots P, formed in the sleeve. D' D'  
90 indicate tube-sections on opposite sides of the lantern connected to the dome and plate K, their upper ends entering the air-chamber Q, formed between the dome and sleeve N, while their lower ends are slightly larger than  
95 the upper ends of the tubes D and are arranged to receive them and make a tight joint with them when the upper section is fastened down by the catch.

R indicates short dividing-plates arranged 100



in the air-chamber Q and extending vertically across the inner ends of the tube-sections D', their function being to prevent the circulation of air around in the chamber Q and to direct a portion of the air entering said chamber from below into the tubes.

When the lantern is lighted, the hot air and products will pass up through the sleeve N and out laterally through the perforations L<sup>2</sup>, while fresh air will enter through the perforated globe-plate and will also be drawn in from the chamber Q by the downdraft in the tubes caused by the rise of the air in the globe or chimney from the chamber beneath the burner. By this arrangement the extinguishment of the flame by high winds or rapid movement of the lantern is prevented, currents, which otherwise might extinguish the flame, being equalized in a manner well understood by those skilled in the art.

When the lantern-top is closed, the spring-pressed sleeve N holds the globe and globe-plate down, and when desired to light the wick without opening the top the operator simply raises the handle g' on the globe-plate, as in dotted lines in Fig. 4, tilting said plate on the burner or the guard, if desired, raising the globe into the dome against the tension of the spring, leaving an aperture between the plate and globe on the side opposite the handle sufficiently large for the introduction of a lighted match, which may be applied to the wick. I by preference locate the handle substantially in line with the opening in the burner-cone, so that the wick can be readily reached.

When it is desired to remove the globe to clean it or for any other purpose, the top section may be tilted back on the hinge, as shown in dotted lines in Fig. 2. The perforated globe-plate will be prevented from falling out by reason of the connection of the handle g' with one of the vertical guard-wires.

The advantages of my construction, whereby a tubular railroad-lantern is provided, will be obvious to those skilled in the art.

I claim as my invention—

1. In a lantern, the combination with the base containing the oil-pot and burner and the air-chamber around the latter, the globe, the tubes independent of the globe connected to the air-chamber and open at their upper ends, the vertical guard-wires, the horizontal ring connected permanently to their upper ends and to the tubes, and an intermediate horizontal guard-ring, of the top plate hinged to the top ring of the guard-frame having the dome, the spring-pressed sleeve therein, the tube-sections connected to the dome and cooperating with the upper ends of the lower tubes when the top is closed, substantially as described.

2. In a lantern, the combination with the base containing the oil-pot, burner and air-chamber, the globe, the vertical tubes independent of the globe connected to the air-chamber, the vertical guard-wires interme-

diating the tubes, the ring connected permanently to their upper ends and to the tubes and the intermediate guard-ring, of the top plate having the perforated dome, the spring-pressed sleeve therein having the apertures and cooperating with the top of the globe and forming an air-chamber between the sleeve and dome, the tube-sections on the plate open at their lower ends and opening into the air-chamber, the vertical strips extending across said tube-openings, a hinge connection between the top plate and the ring on the base, arranged between the tubes, and a catch for holding the top plate down with the tube-sections engaging the ends of the tubes on the base, substantially as described.

3. In a lantern, the combination with the base containing the oil-pot, burner and an air-chamber around the burner, the globe, the tubes rising from the air-chamber independent of the globe, and a guard permanently connected to the tubes and base, of the lantern-top having a dome hinged to the guard-frame between the tubes and in the plane thereof, the tube-sections thereon, the spring-pressed sleeve in the dome, the catch for holding the top to the guard, the globe and the perforated plate, substantially as described.

4. In a lantern, the combination with the lantern-frame having the oil-pot and burner, of the globe-supporting plate loose on the burner, provided with the laterally-projecting handle, the globe loose on said plate, and a guide on the frame engaged by the handle, substantially as described.

5. In a lantern, the combination with the frame, the oil-pot and burner, of the globe, the globe-plate resting loosely on the burner having the depression near its edge and the raised central portion, and a guide for the upper end of the globe, whereby the globe-plate may be tilted on the burner, the lateral movement of the bottom of the globe prevented and a lighted match may be introduced between the globe and plate for lighting the wick, substantially as described.

6. In a lantern, the combination with the frame, having the vertical guard-wires, the oil-pot and burner, of the globe, the globe-supporting plate loose on the burner and having the depression near its edge and the handle or loop engaging the guard-wire and projecting substantially in line with the slot in the burner, substantially as described.

7. The combination with the lantern-base, air-tubes secured thereto and a guard secured to said tubes and base and adapted to have the globe inserted from above, of a lantern-top hinged to the top of said guard and containing a metallic chimney, an air-inlet chamber surrounding the chimney and tube, and elbows secured to said chamber and adapted to fit upon the open upper ends of the air-tubes when the top is closed down, substantially as set forth.

8. In a lantern, the combination with the base containing the oil-pot and burner and



the air-chamber around the latter, the globe,  
tubes independent of the globe and connected  
to the air-chamber and open at their upper  
ends, and a fixed guard encircling the globe  
5 and adapted to have the globe inserted from  
above, of a lantern-top hinged to said guard  
and containing the dome and tube-sections

connected with the dome and coöperating  
with the upper ends of the tubes when the top  
is closed, substantially as described.

CHARLES BERGENER.

Witnesses:

F. F. CHURCH,  
G. A. RODA.