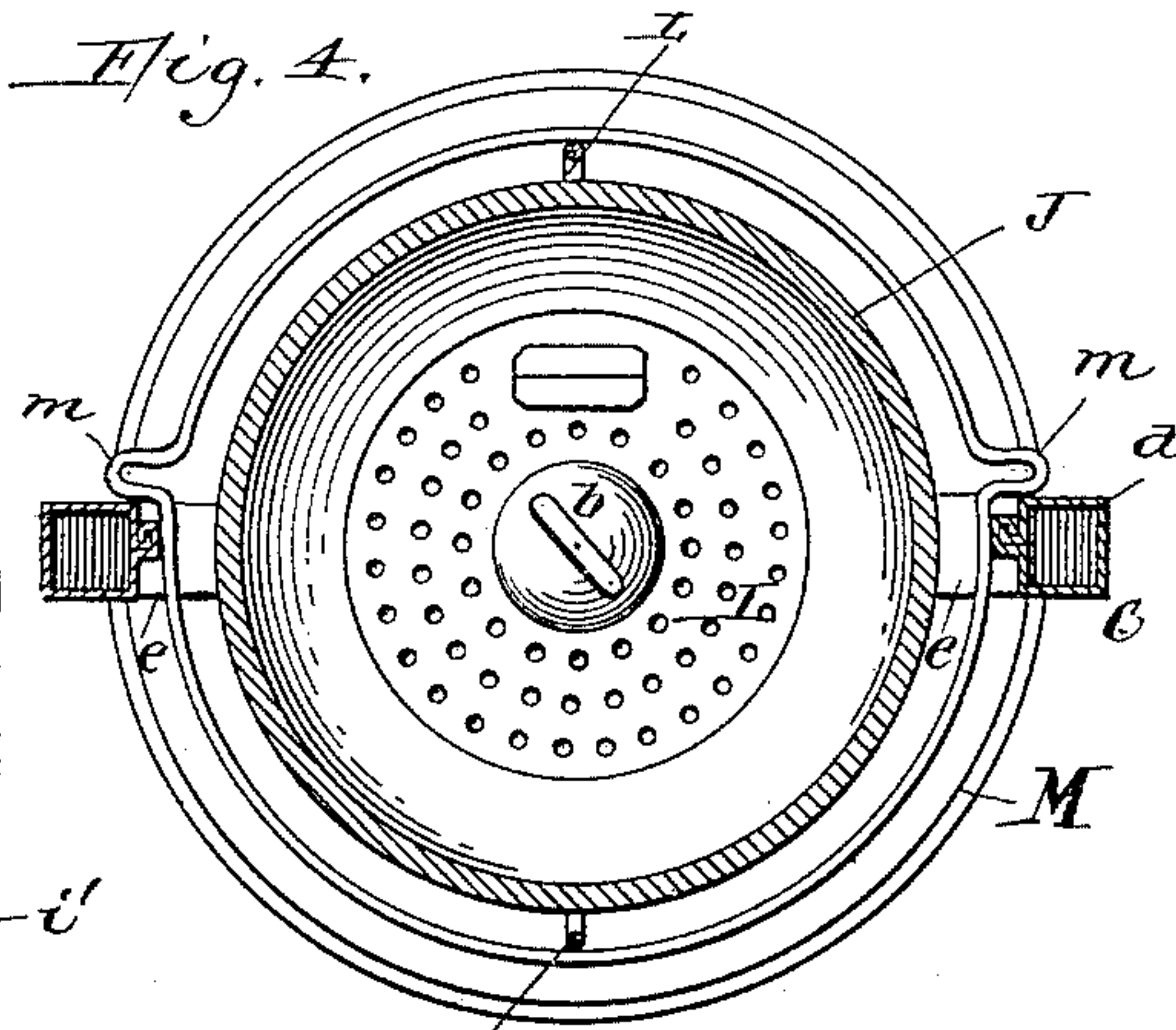
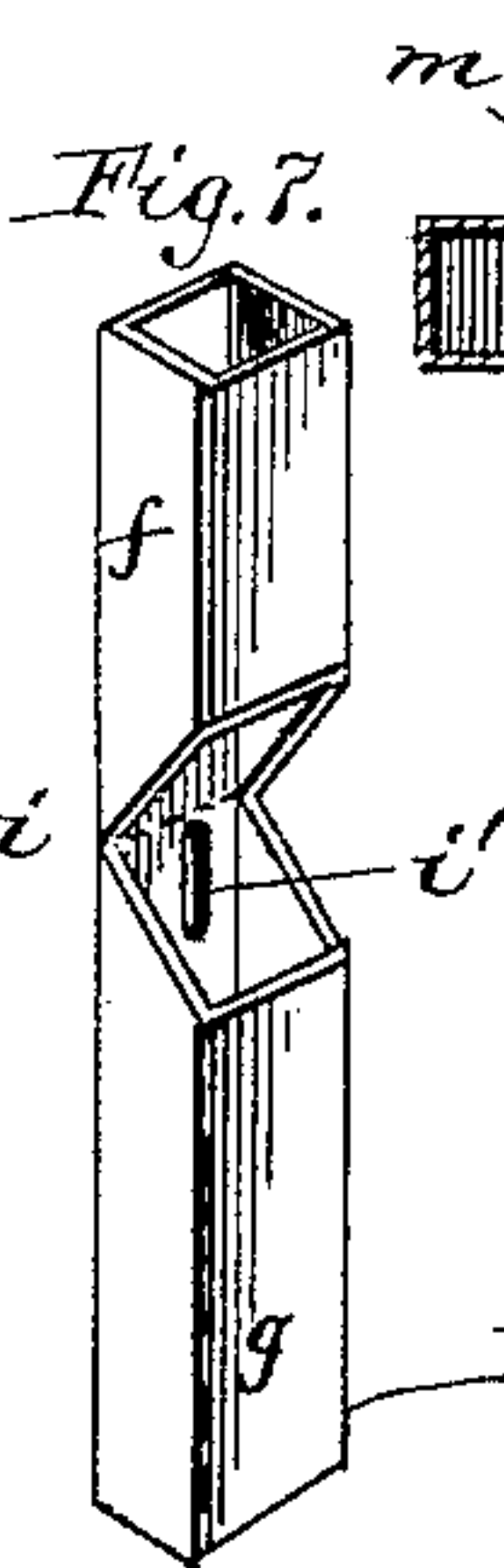
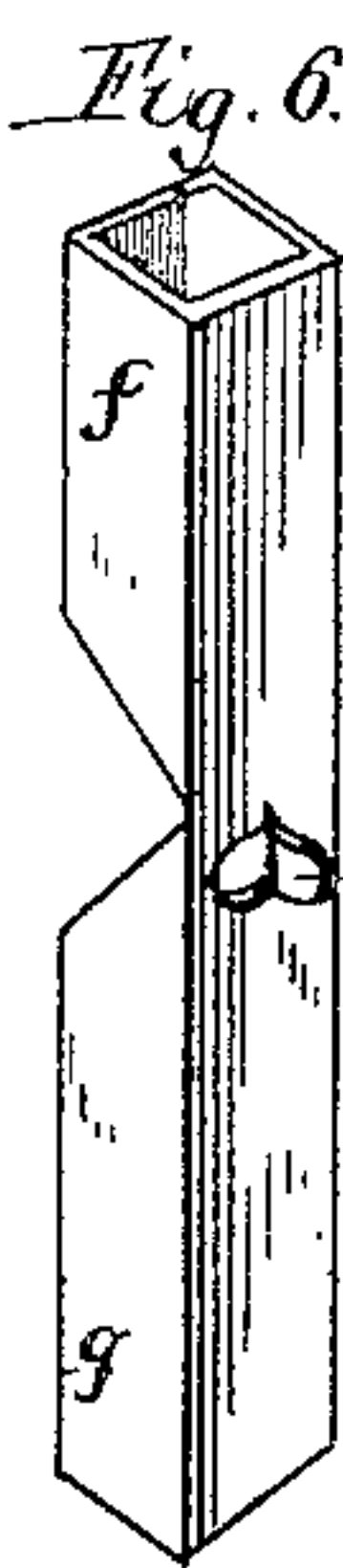
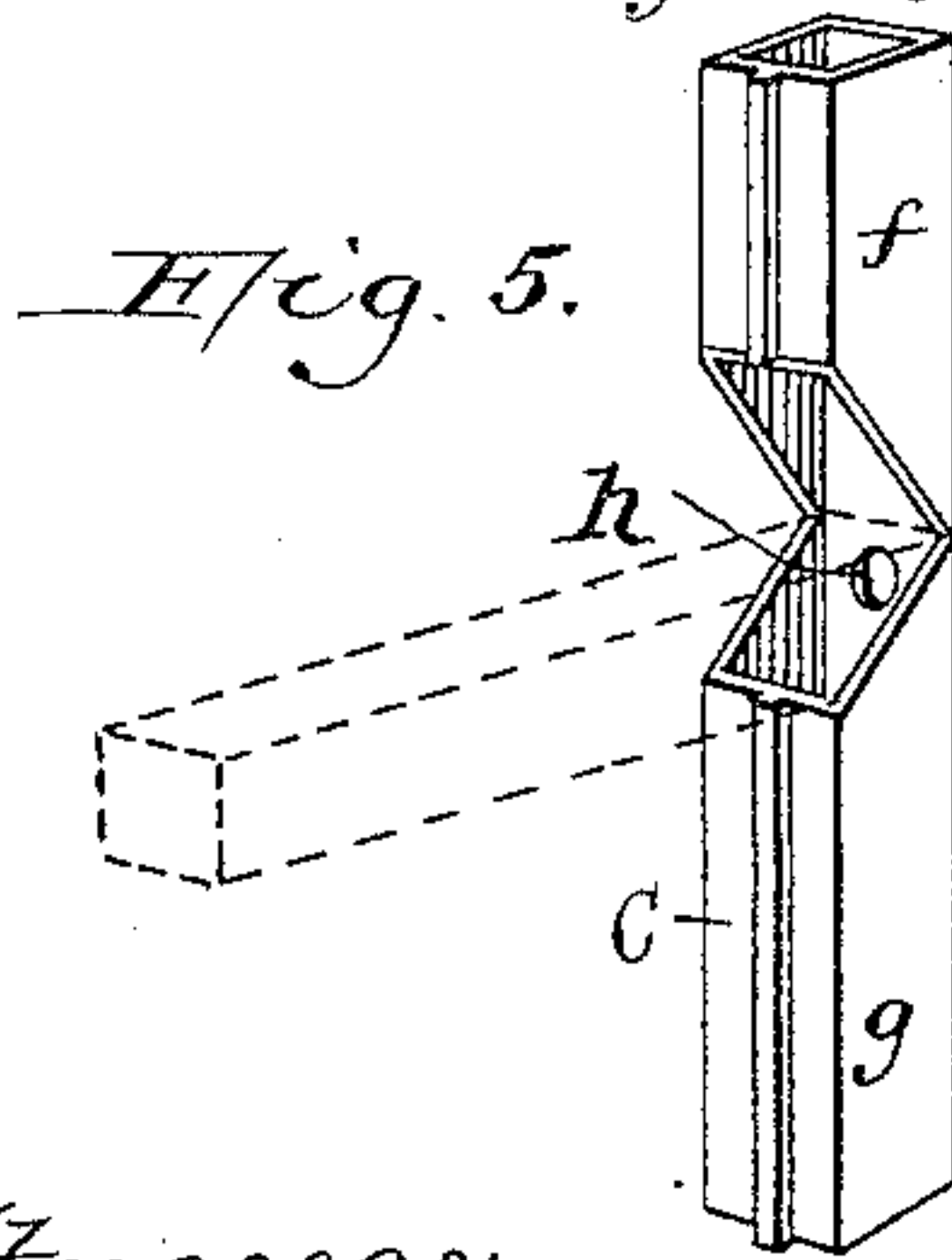
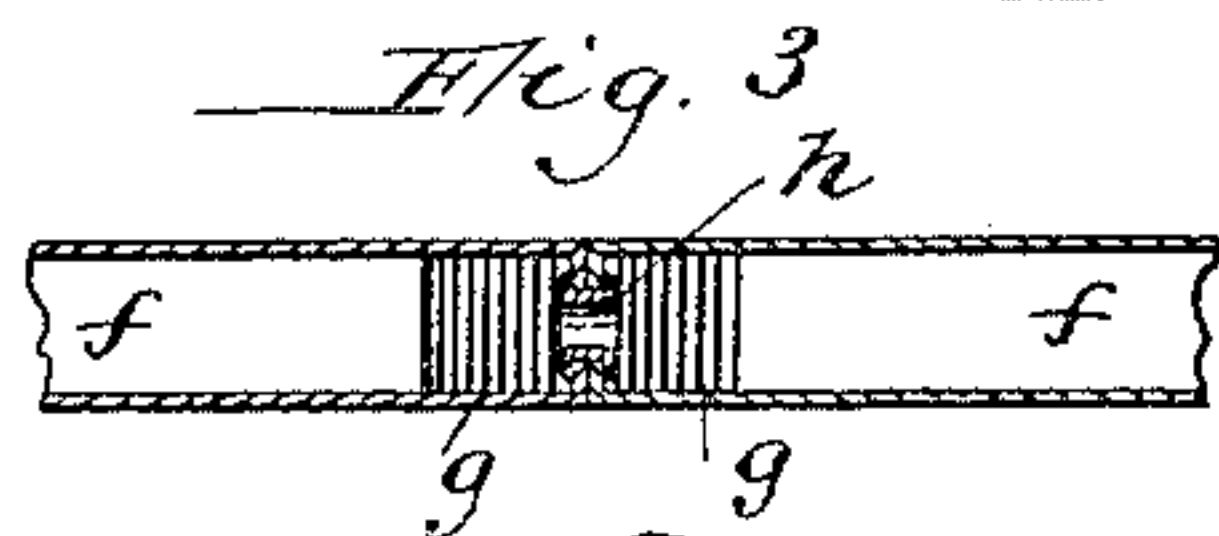
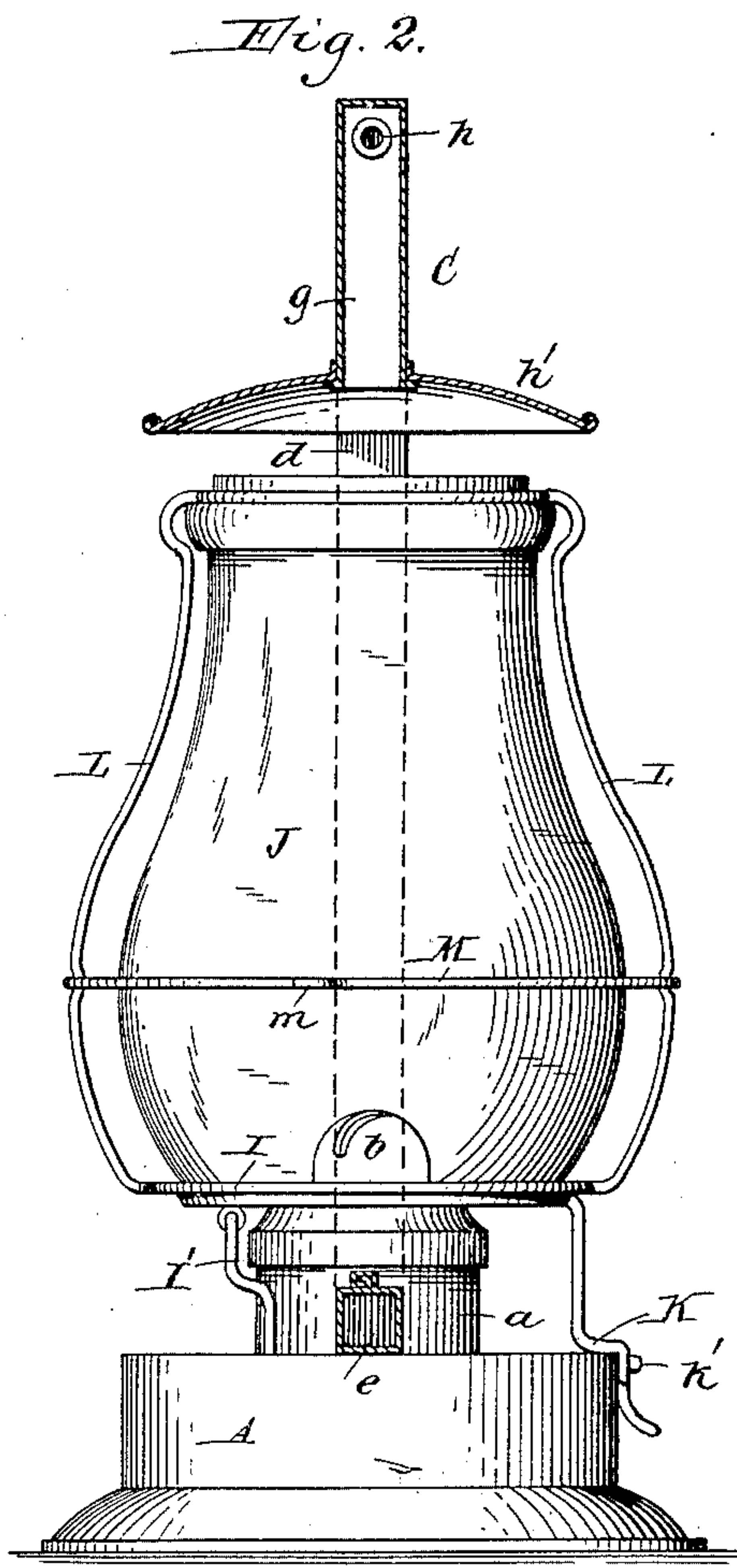
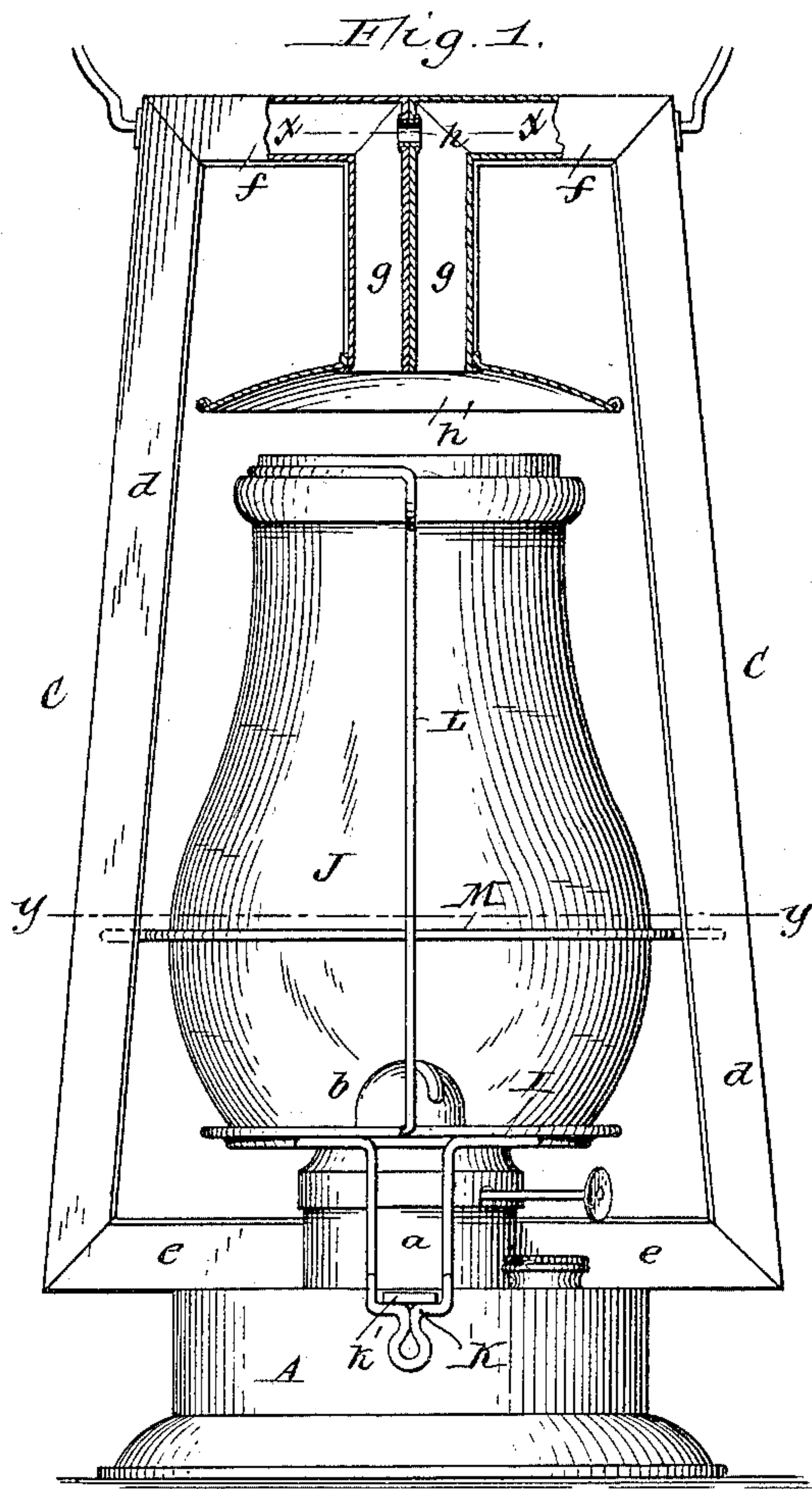


(No Model.)

F. K. WRIGHT.
TUBULAR LANTERN.

No. 461,064.

Patented Oct. 13, 1891.



Witnesses:
Emil Neuhaert.
Theo. L. Popp.

F. K. Wright Inventor.
By Wilhelm Hornum
Attorneys.

UNITED STATES PATENT OFFICE.

FREDERICK K. WRIGHT, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE STEAM GAUGE AND LANTERN COMPANY, OF SAME PLACE, AND THE R. E. DIETZ COMPANY, OF NEW YORK, N. Y.

TUBULAR LANTERN.

SPECIFICATION forming part of Letters Patent No. 461,064, dated October 13, 1891.

Application filed November 20, 1890. Serial No. 372,003. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK K. WRIGHT, a citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented new and useful Improvements in Tubular Lanterns, of which the following is a specification.

This invention relates to an improvement in tubular lanterns, and has for its objects to secure the upper portions of the air-tubes together more securely and at less expense than heretofore and to provide simple means for holding the tilting globe-frame in its normal position.

In the accompanying drawings, Figure 1 is a front elevation, partly in section, of a tubular lantern provided with my improvement. Fig. 2 is a side elevation with one tube broken away. Fig. 3 is a horizontal section through the upper portion of the tubes in line *x x*, Fig. 1. Fig. 4 is a horizontal section in line *y y*, Fig. 1. Fig. 5 is a fragmentary perspective view showing one of the tubes before the elbow-bend is formed in the same. Figs. 6 and 7 are perspective views showing a modified construction of the fastening by which the tubes are secured together.

Like letters of reference refer to like parts in the several figures.

A represents the oil-pot; *a*, the air-chamber on the same, and *b* the burner.

C C represent the air-tubes, which are each composed of a side portion *d*, bottom portion *e*, top portion *f*, and depending portion *g*. These tubes are constructed with flat backs, as set forth in Letters Patent No. 390,553, granted to L. F. Betts October 2, 1888, and are preferably square in cross-section, as shown in the drawings. The depending portions *g g* at the upper ends of the tubes are arranged back to back and are secured together by a rivet or eyelet *h*, which passes through the contiguous backs of these sections. The depending portion *g* is preferably formed in one piece with the horizontal top portion of the tube, and in that case the two tubes are secured together after the longitudinal edges of each tube are united, but before the tube is bent at the angles or elbows, as represented in Fig. 5. The rivet or eyelet is applied to

the contiguous backs of the depending portions *g* through the notch or opening which exists in each tube preparatory to bending it at the upper end of the depending portion and while the tube is still straight. After the rivet or eyelet has been applied the tube is bent, whereby the opening is closed. When the depending portions of the tubes are made separate from the other portions of the tubes, which may be done when tools for forming each tube of a single blank are not available, the two depending portions are first secured together by the rivet or eyelet and then soldered to the horizontal top portions of the tubes. This improved construction avoids the necessity of soldering the two depending portions of the tubes together and provides a fastening which is cheaper than soldering and more durable, because it is not affected by heat.

h' represents the bell, which is secured to the lower ends of the depending portions of the tubes in the usual manner.

In the construction represented in Figs. 1 and 3 the rivet or eyelet is made separate from the tubes. If preferred, however, the rivet may be formed in one piece with the tube, as represented in Figs. 6 and 7, in which the back of one of the tubes is formed with a projecting lip *i*, which is passed through a slit *i'* in the back of the adjoining tube and clinched on the inner side of the latter.

I represents the plate upon which the globe rests and which is hinged to a standard I' on the rear side of the lantern in a well-known manner, so that it can be swung back or tilted with the globe J to expose the burner.

K is a catch secured to the plate I at the front of the lantern and engaging over a projection or stop *k'* on the front side of the oil-pot for locking the plate in a horizontal position upon the burner.

L L are upright wires which extend from the globe-plate upwardly on the front and rear sides of the globe and are connected at the top by a semicircular bow which bears against one side of the globe and rests upon the top bead thereof.

M is a guard-ring which is secured to the upright wires L opposite the breast or swell

of the globe and which is arranged between the tubes. This ring is provided with lateral projections *m*, which bear against the rear sides of the tubes when the catch is engaged with the stop *k'* and which brace the globe-frame against forward movement. These projections are preferably formed by indenting the guard-ring.

The catch *K* bears upon the top of the oil-pot and under the stop *k'*. In drawing the catch down to engage it with the stop the lateral projections of the guard-ring are drawn tightly against the rear sides of the tubes, so that when the catch has been sprung over the stop the latter prevents rearward movement of the globe-frame and the lateral stops on the guard-ring prevent forward movement, whereby the globe-frame formed by the plate, the upright wires, and the guard-ring is rigidly held in its normal position.

I claim as my invention—

1. In a tubular lamp or lantern, the combination of two air-tubes having the contiguous backs of their depending portions secured together by a rivet or eyelet, substantially as set forth.

2. The combination, with the oil-pot and air-tubes, of a tilting globe-frame hinged to the lantern on the rear side thereof, a catch secured to the tilting globe-frame and engaging under a stop on the front side of the lantern, and lateral projections on the globe-frame on the rear side of the lantern, which projections are drawn against the rear sides of the tubes in springing the catch over the stop, substantially as set forth.

3. The combination, with the oil-pot and air-tubes, of a globe-plate hinged to the lantern on the rear side thereof, a catch attached to the globe-plate and engaging over a stop on the front side of the oil-pot, upright wires secured to said globe-plate, and a horizontal guard-ring secured to said upright wires and provided with lateral projections adapted to bear against the rear sides of the tubes, substantially as set forth.

Witness my hand this 8th day of November, 1890.

FREDERICK K. WRIGHT.

Witnesses:

FRANK SIVES,
P. L. SALMON.