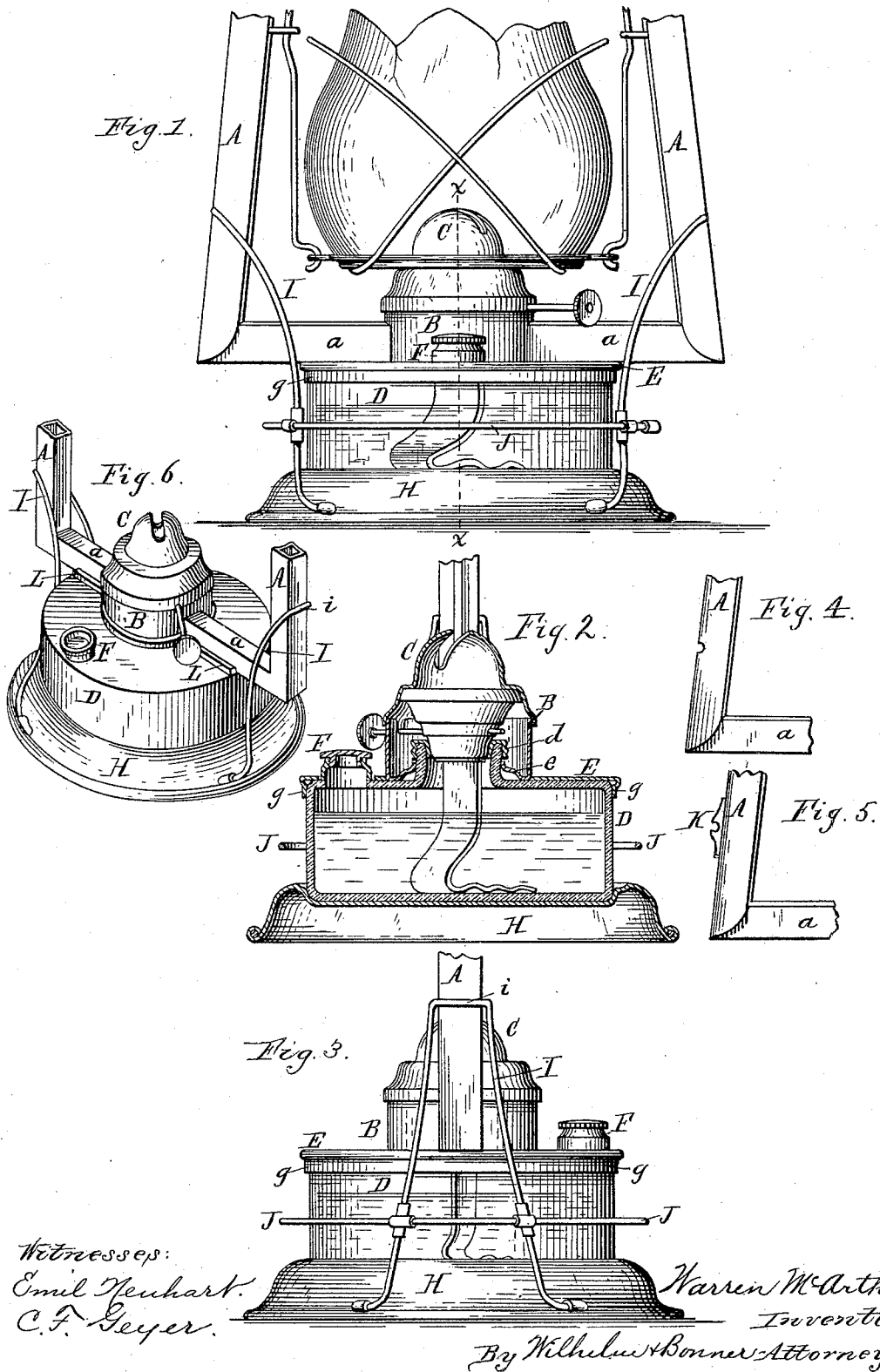


(No Model.)

W. McARTHUR.
TUBULAR LANTERN.

No. 465,598.

Patented Dec. 22, 1891.



UNITED STATES PATENT OFFICE.

WARREN MCARTHUR, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE R. E. DIETZ COMPANY, OF NEW YORK, N. Y., AND THE STEAM GAGE AND LANTERN COMPANY, OF SYRACUSE, NEW YORK.

TUBULAR LANTERN.

SPECIFICATION forming part of Letters Patent No. 465,598, dated December 22, 1891.

Application filed March 5, 1891. Serial No. 383,828. (No model.)

To all whom it may concern:

Be it known that I, WARREN MCARTHUR, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Tubular Lanterns, of which the following is a specification.

This invention relates to improvements in the oil-fount and connecting parts, and has for its object to provide the lantern with a glass oil-fount which is exposed all around its sides, so that its contents can be readily observed.

In the accompanying drawings, Figure 1 is an elevation of the lower portion of a tubular lantern provided with my improvements. Fig. 2 is a vertical section at right angles to Fig. 1 and in line *xx*. Fig. 3 is an elevation at right angles to Fig. 1. Fig. 4 is a side elevation of the lower corner of one of the air-tubes provided with a notched seat for the brace. Fig. 5 is a similar view showing a slightly-modified construction of the seat. Fig. 6 is a perspective view showing a modified construction of my invention.

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

A represents the upright portions of the air-tubes; *a*, the lower horizontal branches thereof; B, the air-chamber with which these branches communicate, and C the burner-cone resting on the air-chamber.

D represents the glass oil-fount, provided in its top with a central neck, in which the burner is seated. This neck is provided with a metallic burner-seat *d*, which is fastened in the open upper end of the neck by cement or by a screw-thread, or both. As shown in Fig. 2, the neck is provided with an external screw-thread and the burner-seat is provided with an outer overhanging flange, on which a screw-thread is bent and which is screwed down upon the neck, suitable cement being preferably applied to the screw-threads of the neck and flange.

E represents a top plate of tin or other thin metal, upon which the air-chamber and the horizontal branches of the tubes are secured, and which is provided with a short cen-

tral collar *e*, through which the neck of the oil-fount projects upwardly into the air-chamber.

F represents a filler which is secured to the top of the glass fount, and which projects upwardly through an opening in the metallic top plate E. This opening is preferably made somewhat larger than the filler, so that the approach of the oil-level to the base of the filler can be more readily observed as the fount is being filled. The metallic top plate E is provided with a depending marginal flange *g*, which embraces the top portion of the glass fount and prevents lateral displacement of the plate on the fount. This flange is preferably beaded, as shown, to stiffen the edge of the top plate and form a smooth finish.

H represents a metallic bottom, which is applied to the bottom of the glass fount and provided with a depression in which the bottom of the glass fount is seated, so that these parts cannot change their relative positions laterally.

I represents braces, which are attached with their lower ends to the metallic bottom and with their upper ends to the tubular lantern-frame. These braces are preferably constructed of wire, as shown in the drawings, each brace being bent of a single length of wire in the form of an elongated loop, which is secured with its lower ends to the metallic bottom by soldering or otherwise, while its upper horizontal bar or portion *i* is seated in notches or recesses formed in the outer sides or backs of the upright portion of the air-tubes. When it is desired to make the glass fount detachable, so that it can be removed in case of breakage, the braces are simply sprung with their upper horizontal bars into these notches, while when a permanent attachment is desired the braces can be soldered to the tubes.

J represents a guard-ring which encircles the glass fount and is arranged about midway between its top and bottom and at a short distance outwardly from the cylindrical side wall of the glass fount. This guard-ring is preferably constructed of wire and secured to the braces by clips or solder. This guard-ring protects the glass fount, but does

not cover the fount sufficiently to interfere with the free observation of its contents.

When the braces are detachably secured to the tubes, the glass fount can be removed from the metallic top plate and from the metallic bottom upon springing the braces out of the notches of the tubes. The horizontal top bars of the braces close the notches in the tubes sufficiently to prevent the ingress and egress of air to and from the tubes through these notches; but, if desired, the tubes need not be notched, and separate seats K for the braces can be secured to the backs of the tubes, as represented in Fig. 5. The metallic top plate can be dispensed with and the glass fount can be held against lateral displacement on the air-chamber and the lower branches of the tubes by providing the top of the glass fount with ribs L, which bear against the sides of the tubes and air-chamber along the lower portions thereof, as represented in Fig. 6. The tubes and air-chamber form the lower part of the lantern frame, against which the glass fount is held by the metallic bottom and the braces.

I claim as my invention—

1. The combination, with the lantern-frame, of a detachable glass fount upon which the lantern-frame rests, a bottom supporting the glass fount, and braces connecting said bot-

tom detachably with the lantern-frame, substantially as set forth.

2. The combination, with the tubular-lantern frame, of a glass fount on which the frame rests, a bottom applied to the under side of the fount, and braces secured with their lower ends to the bottom and engaging with their upper ends removably in seats in the tubes of the frame, substantially as set forth.

3. The combination, with the lantern-frame, of a glass fount, a top plate secured to the lower portion of the frame and embracing the top of the glass fount, a separate bottom applied to the under side of the fount, and a guard-ring arranged between said bottom and top plate and surrounding the fount at a distance from its side wall, substantially as set forth.

4. The combination, with the lantern-frame, of a glass fount, a bottom applied to the under side of the fount, braces connecting the bottom with the lantern-frame, and a guard-ring secured to the braces, substantially as set forth.

Witness my hand this 26th day of February, 1891.

WARREN MCARTHUR.

Witnesses:

JOS. LUDS,
G. C. MCARTHUR.