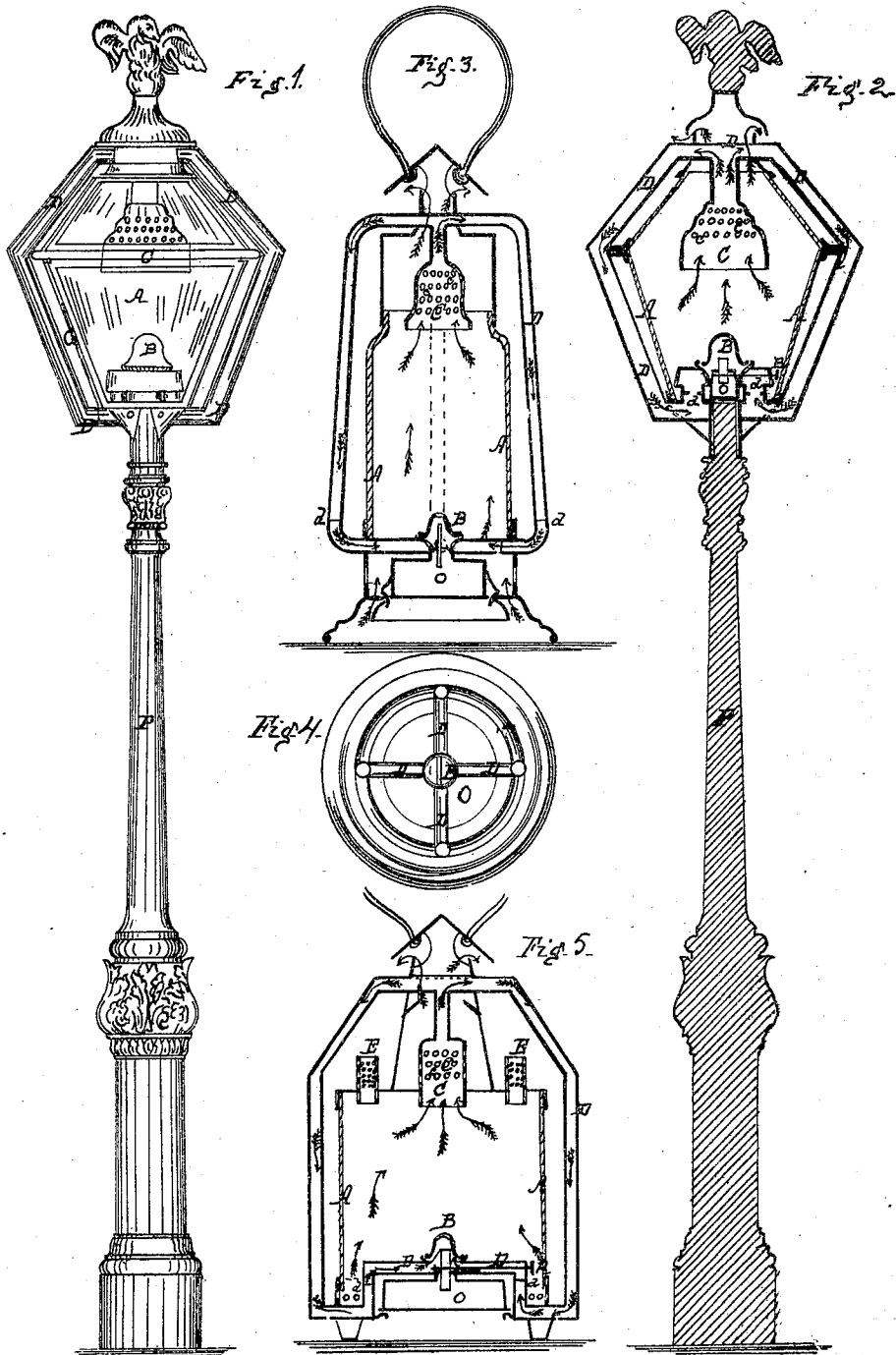


J. H. Irwin.

Lantern.

N^o 73012

Patented Jan 7, 1868.



Inventor
J. H. Irwin

Witnesses.
W. E. Marx
L. L. Carson

UNITED STATES PATENT OFFICE.

JOHN H. IRWIN, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN LANTERNS AND STREET-LAMPS.

Specification forming part of Letters Patent No. 73,012, dated January 7, 1868.

To all whom it may concern :

Be it known that I, JOHN H. IRWIN, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Lanterns and Street-Lamps; and I do hereby declare and make known that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings and the letters and figures marked thereon, which form part of this specification.

My said invention relates and appertains to portable lanterns of all kinds, street-lamps, and all lanterns or lamps for outdoor use which require to have the flame protected from the wind or currents of air; and said invention consists in the employment, in combination with the lamp proper or its burner, and the glass-globe or protector thereof, of one or more tubes or their equivalent, arranged with one end over the burner or flame, and the other at or below the flame, so that the heat generated by the combustion of the lamp will induce a current of air through said tubes or passages to supply the flame with the requisite amount of oxygen to insure a perfect or substantially smokeless combustion and illumination without the use of a draft-chimney, as hereinafter more fully described.

To enable those skilled in the art to understand how to construct and use my said invention, I will proceed to describe the construction and operation of the same, making reference in so doing to the aforesaid drawings, in which—

Figure 1 represents a side elevation of my invention as applied to a stationary street-lamp, Fig. 2 being a vertical central section of the same. Fig. 3 is a vertical central section of a portable lantern, having my invention so applied thereto as to make said tubes also serve the purpose of a guard to the lantern, Fig. 4 being a plan view of the same, with the globe and upper portion of the tubes removed; and Fig. 5 is a central vertical section of a square portable lantern.

Similar letters of reference in the several figures denote the same parts of my invention.

A represents the glass protector inclosing the lamp and its burner, which may be of any

of the known forms, O representing the oil cup or reservoir and B the burner, to which the tubes D are attached in any convenient manner, said tubes being made in section at some convenient point, as shown at *d*, so as to admit of the detachment of the burners or of the lantern-tops when desired.

C represents a bell or inverted-funnel shaped inclosure, provided with a suitable connection with the tubes D, and being perforated, as indicated at *c*, if desired, for the purpose of allowing the nitrogen or impure air to pass out from the bell to escape from the top of the lantern, as indicated by the arrows, at openings constructed in the top of the lamp or lantern for that purpose.

The lamps and lanterns are constructed with suitable openings at or in the base to admit of fresh air from without, which the heated draft induces into the bell, as is indicated by the arrows represented within the lantern. Thus the air passes into the tubes D and becomes cool outside of the lantern, and thus of its own gravity, and also by force of the heated current behind, passes to the burners and produces the requisite result.

When the lanterns or lamps are of a size to admit the pipes or tubes D to return within the protector without being heated by the flame, so as to counteract the effect sought, the entire tubes or their equivalent may be arranged inside the protector, if desired.

In stationary lamps or lanterns, or those which are not required to be moved from place to place, a single tube may be sufficient; but when the lamp or lantern is intended to be moved or carried from place to place, or swung or oscillated in the hand, two or more tubes should be employed, arranged in pairs opposite each other, or otherwise.

In street-lamps the tubes may be arranged at each corner of the lamp, so as to form the frame-work thereof, with suitable provisions for attaching the glass panes thereto, and for hinging and securing a door upon one side, as desired.

In the lantern shown in Fig. 5, E E are tubes arranged in the top of the lantern or inclosure to permit a portion of the air in the same to pass out, if desired.

Having described the nature, construction,

and operation of my improvement, I will now specify what I claim and desire to secure by Letters Patent:

I claim—

In combination with the burner of a lamp, and a globe or protector thereof, one or more tubes or passages, D, or their equivalent, ar-

ranged to operate substantially as specified and described.

J. H. IRWIN.

Witnesses:

W. E. MARRS,
L. L. COBURN.