No. 779,586. PATENTED JAN. 10, 1905.

F. C. CANNON.

TUBULAR LANTERN.

APPLICATION FILED JUNE 27, 1904.

Fig. 1

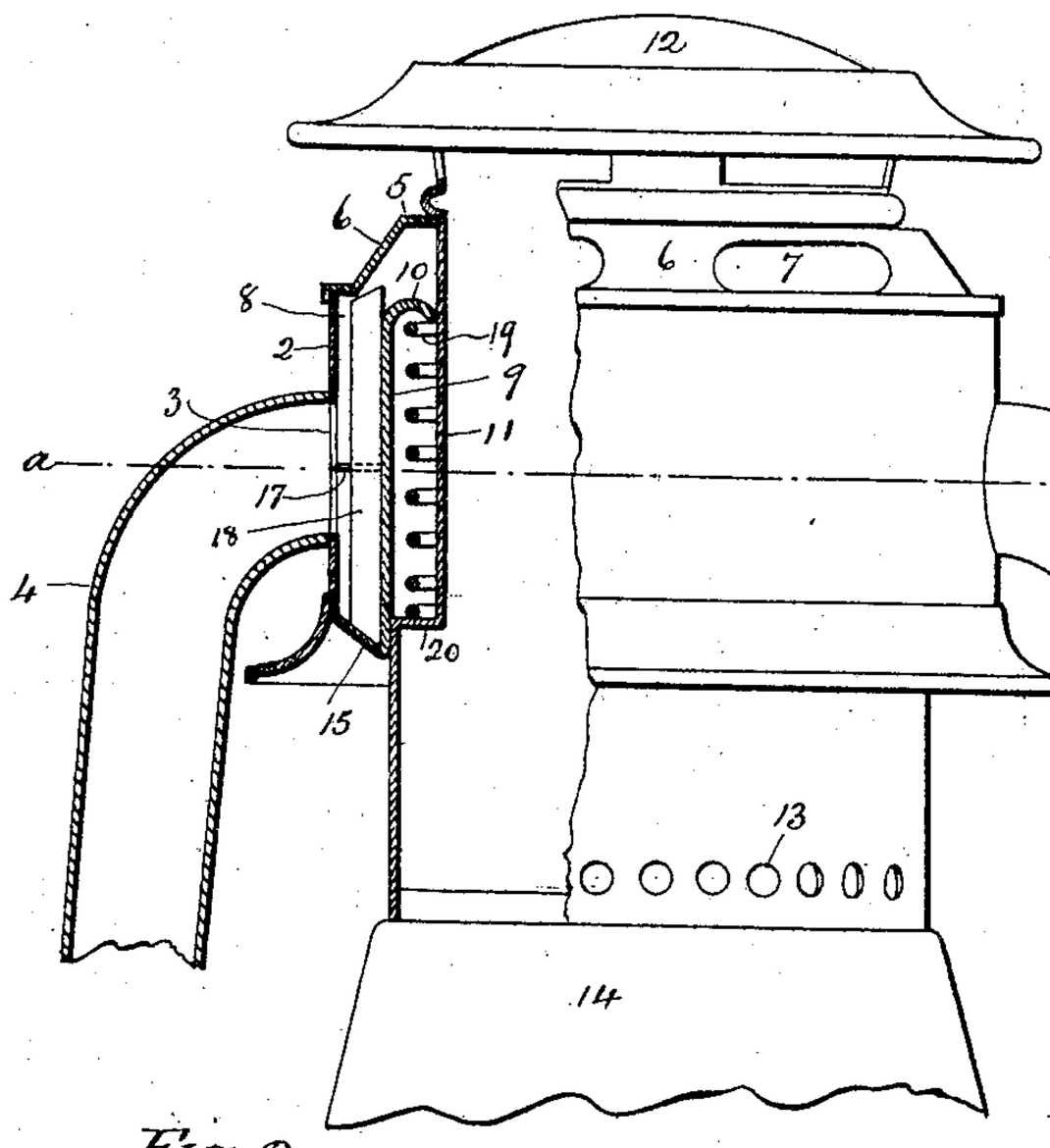


Fig. 5

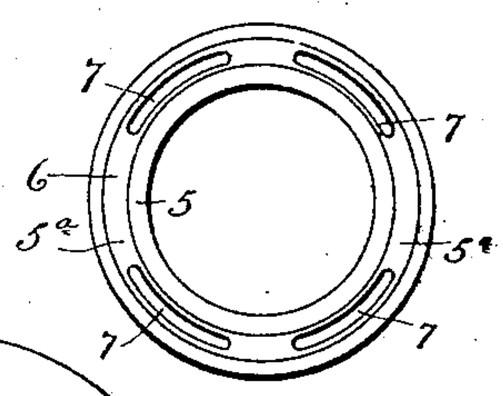
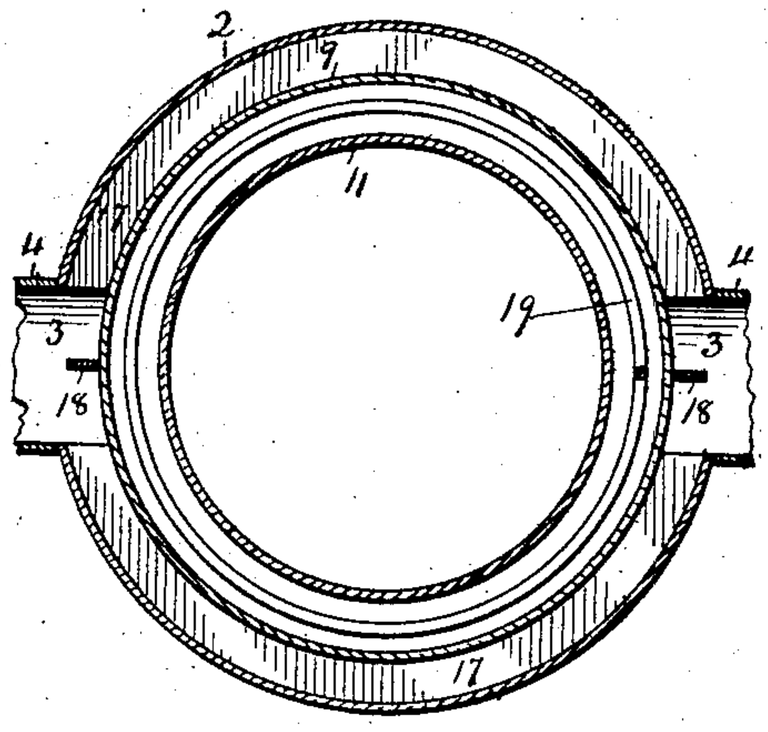


Fig. 3

Fig. 2



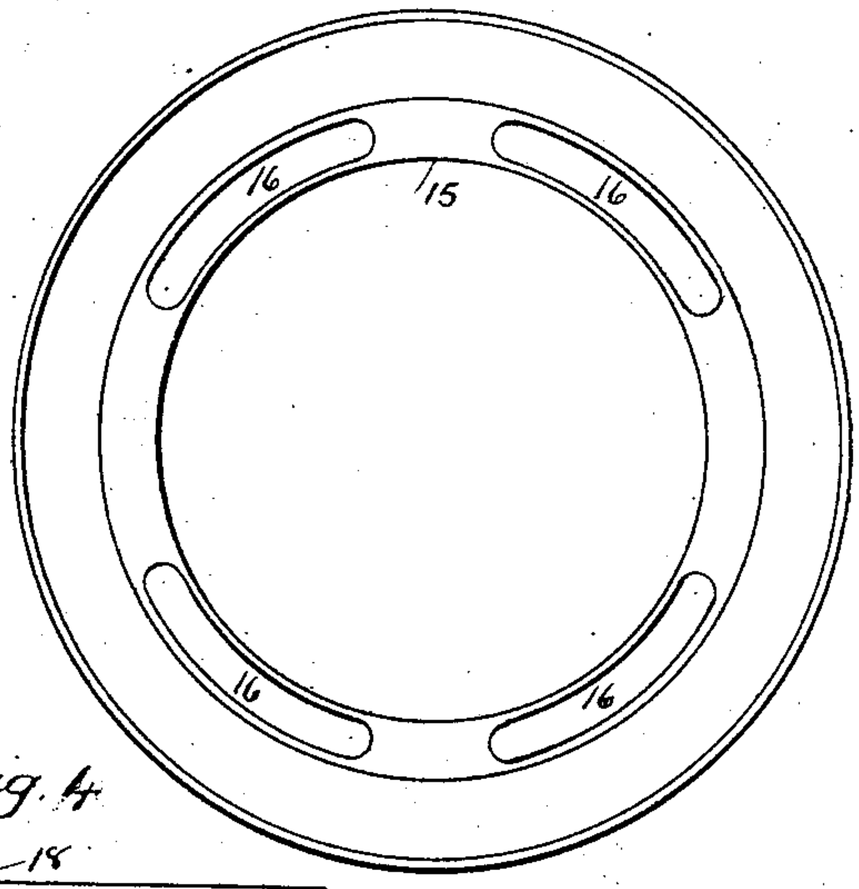
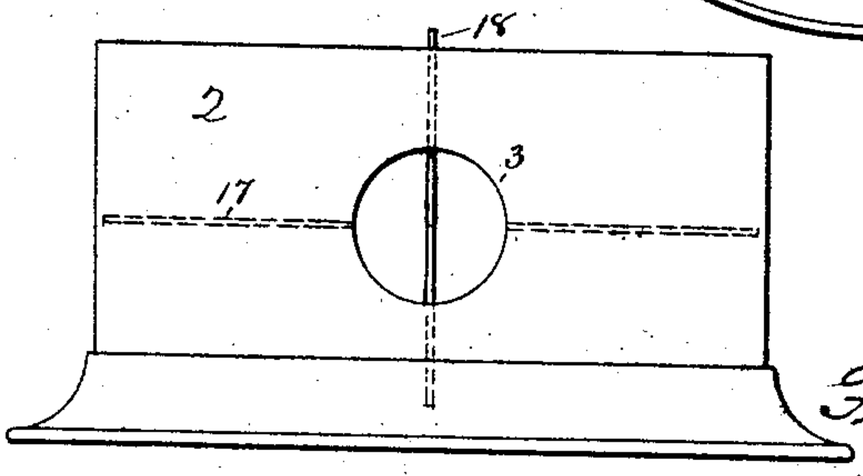


Fig. 4



Witnesses.
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Clara L. Reed.

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PHOTO-LITHOGRAPHED BY SACKETT & WILHELMS L'THO. & PTG. CO. NEW YORK.

No. 779,586. Patented January 10, 1905.

UNITED STATES PATENT OFFICE.

FREDERIC C. CANNON, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE C. COWLES & CO., OF NEW HAVEN, CONNECTICUT, A CORPORATION.

TUBULAR LANTERN.

SPECIFICATION forming part of Letters Patent No. 779,586, dated January 10, 1905.

Application filed June 27, 1904. Serial No. 214,233.

To all whom it may concern:

Be it known that I, FREDERIC C. CANNON, of New Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Tubular Lanterns; and I do hereby declare the following, when taken in connection with the accompanying drawings and the numerals of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a broken view, partly in vertical section and partly in elevation, of the upper portion of a tubular lantern constructed in accordance with my invention; Fig. 2, a broken view, in horizontal section, on the line *a b* of Fig. 1; Fig. 3, a detached reverse plan view of the bell; Fig. 4, a detached view of the bell in side elevation looking at one of its air-outlet openings and showing the vertically-arranged supplemental fender located centrally back of the same; Fig. 5, a detached plan view, on a reduced scale, of the cone applied to the upper end of the bell.

My invention relates to an improvement in that class of lanterns known in the art and to the trade as "tubular" lanterns, for the reason that in them the air is supplied to the burner by means of tubes leading downward from the upper portion of the lantern, the object of my present invention being to produce a simple and effective construction whereby the entrance of air into the upper ends of the tubes is so guarded that violent movement of the lantern or its exposure to strong currents of air will be nullified and not materially affect the even flow of air downward through the tubes to the burner.

With these ends in view my invention consists in certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In carrying out my invention, as herein shown, I employ a downwardly-opening bell 2, having lateral air-outlet openings 3, located at opposite points in it and leading into the upper ends of the tubes 4, which are secured to the sides of the bell, so as to register with the said openings 3. At its upper end the bell is provided with a low cone 5, having a sloping face 6, containing the upper air-inlet openings 7, which lead downward into the upper end of an annular air-chamber 8, formed between the bell and a fixed ring 9, arranged concentrically within the same. As shown, the cone 5 is formed with four air-inlet openings 7; but this number may be increased or decreased, as desired. However, those portions 5^a of the cone located directly above the upper ends of the tubes 4 will not be cut away, but left intact for the better protection of the tubes from sudden inrushes of air from above. The said ring 9 has its upper end turned inwardly to form a flange 10 to guide the upper end of the vertically-movable metal chimney or sleeve 11, which is provided at its upper end with the usual top plate or dome 12 and adapted at its lower end, which is furnished with a band of perforations 13, to receive the upper end of the globe 14. The lower edge of the fixed ring 9 is bent upwardly at an acute angle to form a flange-like fender 15, the edge of which is secured within the lower end of the bell 2. This fender 15 contains the lower air-inlet openings 16, which correspond to the upper air-inlet openings 7 and open into the lower portion of the annular air-chamber 8. In the said chamber 8 I locate two horizontal fenders 17, nearly semicircular in form and arranged in the median plane of the air-outlet openings 3, with their ends terminating at the lateral edges thereof. These fenders break up any sudden downward rush of air through the air-inlet openings 7 and any sudden upward rush of air through the air-inlet openings 16; but as an additional safeguard and to prevent any undue circular movement of air in the chamber 8 I employ two vertically-arranged fenders 18, secured by their inner edges to the fixed ring 9, arranged to extend approximately from the top to the bottom of the air-chamber 8 and located centrally back of the circular air-outlet openings 3 and midway the spaces between the ends of the horizontal fenders 17, to which they stand at a right angle. These supplemental fenders 18 are narrower than the full width of the cham-

ber 8, so as to permit air to pass over their outer edges, but in a space so contracted that its violence or force is nullified. The horizontal fenders 17 virtually divide the air-chamber 8 into two chambers located one above the other, while the vertical fenders 18 virtually divide the said air-chambers into two vertical chambers located side by side.

Under the construction described the lantern may be swung by its bail or moved swiftly upward or downward, as in signaling, or exposed to strong drafts of air without having the currents passing downward through the tubes 4 materially disturbed.

Otherwise than as described my lantern may be of any approved construction. As shown, the inwardly-turned flange 10 forms an abutment for the upper end of a coiled spring 19, which holds the metal chimney 11 down upon the globe 14, the lower end of the said spring bearing upon a shoulder 20, formed upon the outside of the chimney 11.

It is obvious that in carrying out my invention some changes from the construction herein shown and described may be made. I would therefore have it understood that I do not limit myself thereto, but hold myself at liberty to make such variations therein as fairly fall within the spirit and scope of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a tubular lantern, the combination with a bell containing an annular air-chamber and formed with two lateral air-outlet openings, of two tubes connected at their upper ends with the said bell to register with the said openings, two horizontally-arranged segmental fenders located opposite each other within the said chamber and terminating at the side edges of the said openings, and two vertically-arranged supplemental fenders located within the said chamber at points centrally between the ends of the said segmental fenders.

2. In a tubular lantern, the combination with a bell containing an annular air-chamber and formed with two lateral air-outlet openings, of two tubes connected at their upper ends with the said bell to register with the said openings, two horizontally-arranged segmental fenders located opposite each other within the said chamber and terminating at the side edges of the said openings, and two vertically-arranged supplemental fenders located within the said chamber at points centrally between the ends of the said segmental fenders, that portion of the bell located directly above the upper ends of the said tubes being imperforate.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

FRED. C. CANNON.

Witnesses:
CLARA L. WEED,
GEORGE D. SEYMOUR.